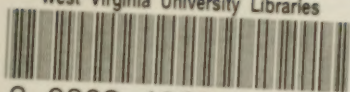



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West Virginia University

BULLETIN



MEDICAL CENTER CATALOG

1984-85

COVER—WVU's Medical Center provides learning facilities for 1,827 students in dentistry, medicine, nursing, pharmacy, and related health fields.



Four sculptured pylons by Milton Horn in front of the Medical Center depict 16 scenes that create a visual history of the healing arts. Close-up, top left, shows Pierre Fouchard (1678-1761), a founder of modern dentistry; bottom: Louis Pasteur (1822-1895) who developed an effective rabies vaccine.



West Virginia University Medical Center 1984-85 Catalog

Medical Center Basic Sciences

School of Dentistry

Dental Hygiene

School of Medicine

Medical Technology

Physical Therapy

School of Nursing

School of Pharmacy

Edited by Stanley J. Nels
Associate University Editor

The 1984-85 West Virginia University Medical Center Catalog is a general source of information about course offerings, academic programs and requirements, expenses, rules, and policies. The courses, requirements, and regulations contained herein are subject to continuing review and change by the West Virginia Board of Regents, University administrators, and the faculties of schools and colleges to best meet the goals and objectives of the University. The University, therefore, reserves the right to change, delete, supplement or otherwise amend at any time the information, course offerings, requirements, rules, and policies contained herein without prior notice.

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West Virginia University is an Equal Opportunity-Affirmative Action institution. In compliance with Federal Executive Order No. 11246 as amended, Title VII of the Civil Rights Act, West Virginia Human Rights Act Title IX (Educational Amendments of 1972), Sections 503 and 504 of the Rehabilitation Act of 1973, and other applicable laws and regulations, the University provides equal opportunity to all prospective and current members of the student body, faculty, and staff on the basis of individual qualifications and merit without regard to race, sex, religion, age, national origin, or handicap, as identified and defined by law.

The University neither affiliates with nor grants recognition to any individual, group, or organization having policies that discriminate on the basis of race, color, age, religion, sex, national origin, or handicap, as defined by applicable laws and regulations. —Office of the President

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University Calendar, 1984-85

Summer Sessions, 1984

May 21, Monday	Registration, First Summer Session
May 21, Monday	First Classes
May 28, Monday	Memorial Day Recess
June 29, Friday	Last Classes
June 29, Friday	Registration, Second Summer Session
July 2, Monday	First Classes
July 4, Wednesday	Independence Day Recess
August 10, Friday	Last Classes

First Semester, 1984-85

August 20, 21, Monday and Tuesday	New Student Orientation
August 21, Tuesday	General Registration
August 22, Wednesday	First Classes
September 3, Monday	Labor Day Recess
September 27-28, Thursday and Friday	Rosh Hashanah— Days of Special Concern
October 6, Saturday	Yom Kippur—Day of Special Concern
October 12, Friday	Mid-Semester
October 12, Friday	Mid-Semester Reports Due
November 21, Wednesday, to November 25, Sunday, incl.	Thanksgiving Recess
December 7, Friday	Last Classes
December 10, Monday, to December 15, Saturday, incl.	Final Examinations
December 16, Sunday, to January 10, Thursday, incl.	Christmas Recess

Second Semester, 1984-85

January 11, Friday	General Registration
January 14, Monday	First Classes
January 18, Friday	Martin Luther King's Birthday Recess
February 18, Monday	Presidents Day Recess
March 1, Friday	Mid-Semester
March 1, Friday	Mid-Semester Reports Due
March 9, Saturday, to March 17, Sunday, incl.	Spring Recess
April 5, Friday	Good Friday—Day of Special Concern
April 8, Monday	Easter Recess
April 9, Tuesday	Faculty Assembly
May 3, Friday	Last Classes
May 6, Monday, to May 11, Saturday, incl.	Final Examinations
May 13, Monday	Grade Reports for All Graduates Due in Dean's Office
May 14, Tuesday	Dean's Reports for All Graduates Due in Office of Admissions and Records
May 18, Saturday	Alumni Day
May 19, Sunday	Commencement

The academic year is divided into two semesters of about seventeen weeks each and summer sessions.

West Virginia University Medical Center

With the 1983 opening of the Basic Sciences Building addition, the West Virginia University Medical Center further enhanced its capacity for education, research, and service.

The three-story wing, built at a cost of \$2.7 million, adds approximately 20,000 square feet for classrooms, laboratories, and offices for the health sciences program.

When the Basic Sciences Building was opened in 1957 only 113 men and women were enrolled. The number today, including graduate students, is 1,827 in dentistry, medicine, nursing, pharmacy, and related health fields.

Dentistry now enrolls 213 students including 93 in dental hygiene. Medicine has 347, nursing 443, and pharmacy 188. There are 286 graduate students in the basic sciences, dentistry, medical technology, nursing, and pharmacy. There are also 194 medical and 6 dental residents in postgraduate specialty training at University Hospital.

The Medical Center produces graduates qualified to meet most of the health needs of West Virginia's citizens. It also reinforces and updates its teaching with continuing education programs and serves both as a referral and information resource center for the state's physicians and other health professionals.

The Basic Sciences Building and University Hospital, which opened in 1960, join together as a single structure to make up the Medical Center. Previously WVU offered complete programs only in medical technology and pharmacy. A two-year School of Medicine required students to transfer to out-of-state schools to finish their studies. No educational opportunities existed in dentistry or nursing at WVU.

The Charleston Division of the Medical Center and the Wheeling Division of the WVU School of Medicine augment the Medical Center's outreach programs and expand the patient base. By extending the teaching scope of the University's programs, they influence health care and education in every part of the state.

Established in 1972 by an agreement between WVU and the Charleston Area Medical Center, the state's largest hospital complex, the Charleston Division serves students in dentistry, medicine, nursing, pharmacy, and allied health fields and offers postgraduate specialty training. The \$6 million Education Building there was opened in 1977 as a resource for clinical learning.

The Wheeling Division was started in 1974 in cooperation with the Ohio Valley Medical Center and Wheeling Hospital. A joint Wheeling Area Medical Education Committee oversees the program, which offers elective opportunities for medical students and postgraduate specialty training.

Nonacademic policies and regulations affecting students are summarized in the *Student Handbook*. Students are urged to obtain a copy of the *Student Handbook* from the Division of Student Affairs, 205 Moore Hall.

University Hospital

Education of students and advancement of knowledge go hand in hand with the best in medical care at West Virginia University Hospital, the Medical Center's training ground for health professionals.

Services in a wide range of specialties and subspecialties are provided at the 452-bed hospital as well as through clinics where each week more than 2,000 outpatients are seen. Emergency Room service is provided around the clock with more than 35,000 visits recorded annually.

Patients come to University Hospital and its clinics from all parts of West Virginia. They find expertise, experience, and equipment or other resources sometimes not available elsewhere in the state, in such areas as laser surgery for lung cancer or brain tumors, pain control, bladder pacemakers, radiation therapy, pediatric surgery, and cleft palate repair.

Clinic management operations have been streamlined to meet a growing demand for efficient, quality, personalized health care. The General Medicine Clinic provides a multidisciplinary team to handle almost any health problem. This clinic won the support of the Robert Wood Johnson Foundation with a \$783,000 four-year grant, one of 15 awarded among 51 competitors.

Radiologic Technology

A two-year program for radiologic technologists is offered by the Department of Radiology at University Hospital. This course covers anatomy and physiology, radiologic physics, radiographic techniques, pathology, medical terminology, nursing procedures, and professional ethics. Subjects taken do not carry WVU credit, but provision to transfer course work under the Board of Regents bachelor of arts program may be pursued. Practical experience is gained on assigned tours of duty under the tutelage of staff members and clinical instructors.

Candidates must be graduates of accredited high schools with scholastic and personal records acceptable to the Admission Committee. Students provide their own lodging and meals.

Students completing the program are awarded a certificate and are eligible to take the American Registry Examination.

Communications should be addressed to: Coordinator, Radiologic Technology Training, Department of Radiology, West Virginia University Hospital, P.O. Box 6401, Morgantown, WV 26506-6401.

Dietetic Internship Program

The Dietetic Internship Program is offered by the Department of Nutrition and Dietetics of West Virginia University Hospital. The internship is a 44-week generalist program providing learning experience in administrative and clinical dietetics, and is accredited by The American Dietetics Association. Upon successful completion of the program, the intern is recommended for membership in The American Dietetic Association and is eligible to complete the National Registration Examination.

Admission requirements are: completed bachelor's or advanced degree from an accredited college or university with courses meeting ADA Plan IV Program Requirements in general dietetics and at least a 2.75 overall grade-point average with a 2.25 in science courses and 3.0 in food and nutrition courses. Applications should reach the Internship Director by February 20. Appointments will be made in April for entrance in September.

Appointments to the program will be based on personal goals and expectations as identified in the letter of application, evidence of scholastic performance, work experience, extracurricular activities, scholastic honors received, letters of reference, and personal interview with the screening committee.

Preference in admission is given to qualified West Virginians although outstanding nonresident applications will be considered.

Communications should be addressed to:

Director of Dietetic Internship
West Virginia University Hospital
Department of Nutrition and Dietetics
P.O. Box 6401
Morgantown, WV 26506-6401

Dental Clinic

Clinical training and experience constitute a major part of the curriculum for dental students. Facilities for dental and dental hygiene students include 160 treatment cubicles and all necessary related laboratories. Patients are accepted for treatment if their dental problems are of teaching value and if a student is available for assignment. The student is assigned to a patient and must work under close supervision of a faculty member. Dental services are also available through the various specialty programs and faculty practice. The clinic programs provide practical experience for the students and a much needed service to several thousand patients annually.

University Health Service

The University Health Service provides primary medical care for WVU students, faculty, and staff. Each regularly enrolled student pays a fee which covers medical consultation and treatment at the Health Service on the ground floor of University Hospital, or in the hospital's Emergency Room when the Health Service is closed. It also covers limited payment for inpatient care at University Hospital. A voluntary insurance plan is available to students to cover the cost of inpatient and outpatient services beyond primary care. Students are strongly advised to obtain it. Details are available in a Health Service brochure.

Library

The Medical Center Library, a part of the Medical Center Learning Resources Center, serves the students, faculty, and staff of the four Medical Center schools and University Hospital. Its services are available to health professionals throughout West Virginia and, within certain guidelines, to the general public.

The library in the Basic Sciences Building contains approximately 147,000 bound volumes. More than 2,100 domestic and foreign periodicals are currently received.

The Medical Center Library and the main University Library maintain an active interlibrary loan service. Material not in either library may be borrowed from libraries in other cities.

The library is open, except on holidays, from 8:00 a.m. to 11:45 p.m., Monday through Thursday; from 8:00 a.m. to 11:00 p.m., Friday; from 9:00 a.m. to 5:00 p.m., Saturday; and from 2:00 p.m. to 11:00 p.m., Sunday. Changes in scheduled hours are posted in advance.

Admissions

Admission to WVU Medical Center Programs

Applicants for admission to any of the schools of the WVU Medical Center should write to the Assistant to the Dean of Admissions and Records, P.O. Box 6301, WVU Medical Center, Morgantown, WV 26506-6301, who will furnish official blanks upon which formal application must be made.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

For the 1983-84 academic year, the School of Dentistry admitted 50 students, of whom 35 were West Virginia residents; the School of Medicine 88 including 84 West Virginians; the School of Nursing 72 including 67 from West Virginia, and the School of Pharmacy 64 including 52 West Virginians.

When requesting an application by letter for any of the Medical Center programs, the permanent home address must be given.

A \$10.00 application fee is required and must accompany the applications.

Any applicant who is refused admission, or who fails to enroll after acceptance, must re-apply in the regular manner if consideration for a subsequent year is desired.

Those applicants accepted for admission to any of the programs of the WVU Medical Center, except the Division of Dental Hygiene and out-of-state applicants to the School of Dentistry, are required to deposit \$50.00 before acceptance becomes official. Applicants accepted to the Division of Dental Hygiene deposit \$40.00, and out-of-state applicants accepted to the School of Dentistry deposit \$100. If the applicant enrolls in the program of the applicant's choice, the deposit is applied to first-semester tuition.

If an application for admission to the School of Medicine is withdrawn after the applicant has been offered a place and has submitted a deposit, such deposit may be refunded any time before March 30 of the year in which enrollment is anticipated, but will not be refunded after this date. Deposits submitted to all other programs are nonrefundable.

It is required that during the first semester of the first year all WVU Medical Center students must complete certain prescribed immunization and diagnostic procedures.

Admission to West Virginia University

Students will be considered for admission to West Virginia University on the basis of graduation and submission of transcripts from accredited high schools and ACT test results. High school graduates are required to present the following minimum credits:

English—4 units; required of all students.

Mathematics—2 units of college preparatory mathematics, one of which must be algebra; required of all students. Health sciences require 1 unit of geometry. *Additional Mathematics Requirements for Certain Programs:* Students who wish to enter any program requiring Mathematics 3 (College Algebra), or above, for graduation must present a minimum of 2 units of algebra and 1 unit of geometry.

Applicants with substantial life experience will be considered on an individual basis.

(Special admissions regulations for individual WVU Medical Center schools appear in subsequent pages of this *Catalog*.)

All students are required to take the American College Testing (ACT) Program tests and have the report of scores sent to WVU prior to the admission decision, and no other test may be substituted for it.

Students interested in financial assistance must file a Financial Aid Form (FAF) with College Scholarship Service, Box 2700, Princeton, NJ 08540. Forms are available at high schools, or from the College Scholarship Service, or the WVU Student Financial Aid Office. Submit only forms dated for the current academic year.

(Your *Guide to Financial Aid—West Virginia University* is available at the WVU Student Financial Aid Office, Mountainlair, P.O. Box 6004, Morgantown, WV 26506-6004; or WVU Medical Center, 104 Basic Sciences Building, P.O. Box 6301, Morgantown, WV 26506-6301. The guide describes available financial aid, application procedures, and estimated educational expenses for attending WVU.)

West Virginia high school students should obtain applications for admission from their high schools. Out-of-state students may write the WVU Office of Admissions and Records and request an application form. Applicants should prepare their part of the application and then return it to their school. The school then will send the completed application and transcript of the student's high school grades directly to the WVU Office of Admissions and Records, P.O. Box 6009, Morgantown, WV 26506-6009.

Students should apply for admission when they have met these requirements—

West Virginia Residents:

1. If, after 6 semesters of secondary school, the student has a grade-point average of 2.5 of a possible 4.0 (C+ or above) and has taken the ACT test, the student should apply as soon as possible after September 15.

2. If, after 7 semesters of secondary school, the student has a grade-point average of 2.0 of a possible 4.0 (C or above) and has taken the ACT test, the student should apply as soon as possible after beginning the 8th semester.

3. If the student has a grade-point average of 2.0 of a possible 4.0 (C average) at graduation and has taken the ACT test, the student should apply immediately after graduation from secondary school.

4. Return the application to the high school. The school will complete the high school evaluation report and mail the application, the application fee, and a copy of the student's high school transcript to the WVU Office of Admissions and Records. If applying on the basis of the General Educational Development (GED) examination, an official copy of the student's test scores and diploma must be sent to the WVU Office of Admissions and Records.

Out-of-State Residents:

1. If, after 6 semesters of secondary school, the student has a grade-point average of 3.0 of a possible 4.0 (B or above) and has taken the ACT test, the student should apply as soon as possible after September 15.

2. If, after 7 semesters of secondary school, the student has a grade-point average of 2.5 of a possible 4.0 (C+ or above) and has taken the ACT test, the student should apply as soon as possible after the beginning of the 8th semester.

3. If the student has a grade-point average of 2.0 of a possible 4.0 (C average) at graduation and has taken the ACT test, the student should apply immediately after graduation from secondary school.

4. Return the application to the high school. The school will complete the high-school evaluation report and mail the application, the application fee, and a copy of the student's high school transcript to the WVU Office of Admissions and Records. If applying on the basis of the General Educational Development (GED) examination, an official copy of the student's test scores and diploma must be sent to the WVU Office of Admissions and Records.

Admission of Transfer Students

Applicants for transfer from another college or university should submit the following to the Office of Admissions and Records:

1. A complete application for undergraduate admission.
2. An official transcript of all college work attempted to date. An official transcript covering subjects subsequently taken should be sent as soon as possible.
3. Catalog pages describing all subjects which have or will have been completed. The applicant's name should be written on each page and each subject indicated by a check mark in the margin. Complete catalogs should not be sent. (*Not necessary from West Virginia colleges.*)
4. Students transferring to WVU with less than 28 hours are required to have the scores of the ACT test submitted to WVU.

The cumulative average of all work attempted before transfer must be at least C.

Credits and grades earned for all baccalaureate-level courses at any baccalaureate degree-granting institution in the West Virginia state system of higher education and up to 72 hours of credits and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia state system shall be transferable toward a bachelor's degree. (See also "Requirements As to Residence," page 21.)

Credits (though not grades) are transferable from institutions outside the West Virginia state system for courses carrying a grade of C or higher. A grade of D on the first of sequence courses may be transferred if the second course grade is C or higher.

Credits from two-year community colleges and junior colleges outside the West Virginia state system are limited to 72 hours of lower-division courses. These colleges must be accredited by the North Central Association of Colleges and Schools or another regional accrediting association.

The transfer of credits does not exempt the student from satisfying all the requirements for the student's degree program at WVU.

All transcripts must be in the Office of Admissions and Records three weeks in advance of registration.

Evaluation of transcripts for transfer of credit is furnished only after receipt of complete official transcripts and application for admission.

Transfer students generally are admitted only after they complete one full year at another institution. Applicants who have less than one full year of college work elsewhere must submit both their college and high school records. Students who have successfully completed 6 hours or less at another accredited institution will apply as freshmen.

Intrauniversity Transfers

Students transferring from Potomac State College of WVU shall be considered intrauniversity transfers. All records made at Potomac State College are part of the student's WVU record, but no more than 72 hours may be applied toward the baccalaureate degree.

If a change of major is involved, the transferee should consult the college, school, or department to which the student is transferring concerning requirements for the new major.

Admission of Special Students

Persons not desiring to become candidates for a degree may, by special permission, be admitted as special students. Such students are subject in all respects to the usual rules relating to registration and scholarship. Admission to any class is subject to the approval of the instructor in charge.

Students who do not plan to follow a degree program at WVU should submit only a statement of good standing from the last college attended.

Admission of Post-Baccalaureate Students

Students having one or more earned degrees from an approved college or university and desiring to enroll for undergraduate credit may be admitted as post-baccalaureate students. Students admitted in this category would not be working toward a graduate degree and credit earned while under this classification would be limited to undergraduate credit. Students admitted as post-baccalaureate, since they are limited to undergraduate credit, would be assessed undergraduate fees. Candidates for admission to this classification who are not graduates of WVU must submit an official transcript from the institution granting their latest degree.

Admission of International Students

This school is authorized under Federal law to enroll nonimmigrant alien students.

International students wishing to enroll at WVU must comply with all academic requirements stated above in addition to other academic and nonacademic requirements, as follows.

Early Inquiry and Application—International applicants should forward a letter of inquiry one year before they intend to begin study in the United States. The University receives a large number of applications from international students. For this reason, and because of the time required for the student to make visa and financial arrangements, April 1 has been established as a deadline after which applications cannot be processed.

International students should make all arrangements for their financial obligations to WVU and for their entire stay in the United States before leaving their country.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

English Proficiency—All international applicants whose native language is not English must submit Test of English As a Foreign Language (TOEFL) scores. A minimum of 550 is required for admission. TOEFL information and registration forms are available from the Educational Testing Service, Princeton, NJ 08540 USA. Tests are normally given six times each year. It requires one month to score and report individual test results. Registration for the TOEFL examination closes five weeks before the testing date.

Credentials—Complete and original official records of all studies undertaken by an applicant at any institution attended (secondary school, college, university, technical school, professional school, etc.), must be provided at time of application for admission to WVU. Copies of original records are acceptable, provided they are officially stamped.

Such records should include: (1) complete dates of attendance; (2) identification of individual subjects; (3) total number of hours in each class per week; (4) total number of weeks each class meets in session; (5) final grade in each subject, for each year; (6) actual credits earned for each subject; (7) class, division, or rank achieved; (8) identification of the individual; (9) explanation of each institution's grading system; and (10) certification, and date, of degree or awards achieved. If any of this information cannot be supplied, an official explanatory statement from the school should be submitted. *(All documents must be accompanied by certified English translations.)*

All documents should be forwarded directly from the registrar or other authorized official of the school to the WVU Office of Admissions and Records, P.O. Box 6009, Morgantown, WV 26506-6009.

If an applicant is currently enrolled in a school, tentative admission may be granted on the basis of an incomplete record which indicates the applicant will unquestionably meet the admission standards of WVU. Final admission, however, cannot be approved until the complete record has been received and evaluated.

International Students Transferring Within the United States—International students applying to transfer from schools within the United States will not be permitted to register at WVU unless they have complied with all transfer procedures as required by the United States Immigration and Naturalization Service (INS).

The school the student was last authorized to attend must have completed and signed the INS form I-538. This, together with a valid I-20AB form received from WVU and the I-94 form, must have been submitted to the INS office having jurisdiction over the school the student was last authorized to attend. If the student is not now attending that school, a letter must be added explaining in detail why.

If the INS approves the transfer, this approval will be stamped on the student's I-94. The student must then immediately notify WVU that the transfer has been approved.

Only when these procedures have been completed will WVU undertake to admit and register the student. No student should move to Morgantown without having received this assurance of admission to WVU.

Admission of Veterans

Veterans may be admitted to WVU with less than the minimum admission requirements necessary for other, nonveteran applicants.

Information regarding educational opportunities made possible at the University through provisions of the Veterans Readjustment Benefits Act of 1966—G.I. Bill (Public Law 358), the Vocational Rehabilitation Program of the Veterans Administration (Public Law 16), and the War Orphan's Educational Assistance Act of 1956 (Public Law 634) may be obtained from a financial aid counselor by personal conference at the Student Financial Aid Office in Mountainlair, or by mail (P.O. Box 6004, Morgantown, WV 26506-6004). An amendment to Public Law 634, enacted in 1964, provides benefits to many dependents of 100 percent disabled veterans.

Health Sciences Programs At West Virginia University

Degree Program	Bachelor	Master	Doctorate
School of Dentistry			
Dental Hygiene	B.S.		
Dentistry			D.D.S.
Endodontics		M.S.	
Orthodontics		M.S.	
School of Medicine			
Anatomy		M.S.	Ph.D.
Biochemistry (Medical)		M.S.	Ph.D.
Medical Technology	B.S.	M.S.	
Medicine			M.D.
Microbiology (Medical)		M.S.	Ph.D.
Pharmacology and Toxicology		M.S.	Ph.D.
Physical Therapy	B.S.		
Physiology (Medical)		M.S.	Ph.D.
Biomedical Sciences			Ph.D.*
School of Nursing			
Nursing	B.S.N.	M.S.N.	
School of Pharmacy			
Pharmaceutical Sciences		M.S.	Ph.D.
Pharmacy	B.S.Pharm.		
University Hospital			
Medical Graduate Residencies			
Radiologic Technology	Certificate		

*Awarded under the auspices of the degree-granting authority of West Virginia University, but in cooperation with the Basic Sciences Departments of the Marshall University School of Medicine.

Veterans having at least one continuous year of active military service may receive advanced placement credit for General Physical Education 1 and 2. Proof of such military service must be presented to the Dean of Admissions and Records.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

Readmission

Undergraduate students who leave the University for at least one complete semester are required to submit an application for readmission to the Dean of Admissions and Records.

Students who have been suspended from the University must have written approval from the dean of the school or college to which they desire to be admitted.

Approval in writing must be secured in advance to elect courses offered elsewhere. A cumulative average of C is required in order to obtain such approval. Credit will be accepted for transfer for courses carrying a grade of C or higher when the conditions indicated above have been met.

Students wishing to change their major upon readmission must have permission from their previous dean and the dean of the school or college to which they desire to be admitted.

Fees and Expenses

All West Virginia University fees are subject to change without notice.

All fees are due and payable to the Controller on the days of registration. Students must pay fees before registration is accepted. Completion of arrangements with the Controller's Office for payment from officially accepted scholarships, loan funds, grants, or contracts shall be considered sufficient for acceptance of registration. Fees paid after regular registration must be paid to the University Cashier in Mountainlair.

All students are expected to register on days set apart for registration at the beginning of each semester or summer session of the University.

No student will be permitted to register at the University after the eighth day of a semester or the fourth calendar day of the summer sessions or a single summer session. Days are counted from the first day of registration.

Any student failing to complete registration on regular registration days is subject to the Late Registration Fee of \$15.00.

Students registering pay the fees shown in the fees charts, plus special fees and deposits as required.

No degree will be conferred upon any candidate and no transcripts will be issued to any student before payment is made of all tuition, fees, and other indebtedness to any unit of the University.

Persons not registered as University students and who are not members of its administrative or teaching staffs shall not be admitted to regular attendance in University classes.

Classification of Students (Full-Time and Part-Time)

A *full-time graduate student* is one who is registered for 9 or more semester hours of work each semester of the regular academic year, or 6 or more semester hours of work altogether during the summer.

A *full-time undergraduate student* is one who is registered for 12 or more semester hours of work each semester of the regular academic year, or 6 or more semester hours of work during a 6-week summer session.

For fee assessment purposes, a *part-time graduate student* is one who is registered for fewer than 9 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

A *part-time undergraduate student* is one who is registered for fewer than 12 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

It should be recognized that unique curriculum requirements in several of the Medical Center programs may require student involvement in summer clinical clerkships prior to official enrollment for the following semester's work.

ESTIMATED EXPENSES FOR MEDICAL CENTER PROGRAMS (First Semester) [Subject to Change]

Tuition and registration are the same for both semesters. Some expenses, such as instruments and books, will be different for the Second Semester.

School or Division	Tuition and Registration Fees		Instruments	Lab Coats, Uniforms, etc.	Books	Total	
	Resident	Nonresident				Resident	Nonresident
Dental Hygiene							
Freshman	\$ 545.00	\$1,470.00	\$ 130.00	\$17.00	\$140.00	\$ 832.00	\$1,757.00
Sophomore	545.00	1,470.00	800.00	165.00	155.00	1,665.00	2,590.00
Junior	545.00	1,470.00	180.00	66.00	140.00	931.00	1,856.00
Senior	545.00	1,470.00	50.00	66.00	50.00	711.00	1,636.00
Dentistry							
First Year	1,010.00	2,295.00	2,500.00	88.00	500.00	4,098.00	5,383.00
Second Year	1,010.00	2,295.00	600.00	110.00	140.00	1,960.00	3,145.00
Third Year	1,010.00	2,295.00	—	—	70.00	1,080.00	2,365.00
Fourth Year	1,010.00	2,295.00	—	—	—	1,010.00	2,295.00
Medical Technology							
Junior	545.00	1,470.00	60.00	75.00	250.00	930.00	1,855.00
Summer	117.00	273.00	—	200.00	223.00	540.00	696.00
Senior	545.00	1,470.00	—	155.00	—	700.00	1,625.00
Medicine							
First Year	1,010.00	2,295.00	259.00	103.00	864.00	2,236.00	3,521.00
Second Year	1,010.00	2,295.00	778.00	103.00	691.00	2,582.00	3,867.00
Third Year	1,010.00	2,295.00	—	68.00	691.00	1,769.00	3,054.00
Fourth Year	1,010.00	2,295.00	—	68.00	432.00	1,510.00	2,795.00
Nursing							
Sophomore	545.00	1,470.00	30.00	126.00	400.00	1,101.00	2,026.00
Junior	545.00	1,470.00	—	—	100.00	645.00	1,570.00
Senior	545.00	1,470.00	—	—	100.00	645.00	1,570.00
Pharmacy							
Third Year	545.00	1,470.00	46.00	30.00	210.00	831.00	1,756.00
Fourth Year	545.00	1,470.00	—	30.00	100.00	675.00	1,600.00
Summer	291.00	915.00	—	—	291.00	291.00	915.00
Fifth Year	545.00	1,470.00	—	30.00	75.00	650.00	1,575.00
Physical Therapy							
Junior	545.00	1,470.00	—	70.00	520.00	1,135.00	2,060.00
Senior	545.00	1,470.00	—	70.00	370.00	985.00	1,910.00
Summer	174.00	642.00	—	—	—	174.00	642.00
TUITION & REGISTRATION FEES BREAKDOWN							
Dent Hyg. Med Tech.	Full-time 12 hr. or more	Resident	\$130.00	\$ 50.00	\$ 155.00	\$40.00	\$15.00
		Nonresident	500.00	250.00	475.00	155.00	50.00
Nsg. Pharm. & Phys Ther.	Full-time 9 hr. or more	Resident	160.00	50.00	155.00	40.00	15.00
		Nonresident	600.00	250.00	475.00	155.00	50.00
Graduate	Full-time 9 hr. or more	Resident	300.00	50.00	450.00	40.00	15.00
		Nonresident	800.00	250.00	1,000.00	155.00	50.00
TUITION PER SEMESTER HOUR—PART-TIME & SUMMER (Under 9 hr.)							
Dental Hygiene, Medical Technology, Nursing, Pharmacy, and Physical Therapy.		Resident	\$29.00	—	Per Credit Hour—	\$107.00	—
		Nonresident	42.00	—	Per Credit Hour—	154.00	—
Graduate		Resident	90.00	—	Per Credit Hour—	234.00	—
		Nonresident	90.00	—	Per Credit Hour—	234.00	—
Dentistry and Medicine.							
SEMESTER \$45.00 ◀ SPECIAL FEES ▶ SUMMER \$17.00 under 6 hr. — \$59.00 6 hr. or more each session							

Summer Fees

Tuition, per semester hour	Resident	Nonresident
Undergraduate students	\$29.00	\$107.00
Graduate students.....	42.00	154.00
Dentistry and Medicine students	90.00	234.00
Daily Athenaeum Fee*	1.00	1.00
Radio Station Fee*	1.00	1.00
Health, Counseling, and Program Services Fee.....	21.00	21.00
Mountainlair Construction Fee per 6-week summer session or any portion thereof*	15.00	15.00
Student Affairs Fee	8.00	8.00
Transportation Fee	13.00	13.00

*Fee required of all students. (Nonrefundable unless student withdraws officially before the close of general registration.)

Special Fees

Application for Undergraduate Admission

(Freshman, Transfer, and Foreign Students)	\$10.00
Application for Admission (College of Law and Graduate Studies) .	20.00
Certificate of Advanced Study in Education	2.00
Diploma Replacement	20.00
Examination for Advanced Standing	35.00
Examination for Entrance Credit, per unit	1.00
Examination of Candidate for Graduate Degree	1.00

(For graduate students not otherwise enrolled at time of final examination.)

General Educational Development Tests (high school level)	15.00
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(If the applicant applies for admission to and registers in WVU within twelve months of the date of qualifying for the test, a \$10.00 credit shall be established for the applicant.)

Graduate Program Continuance Fee	35.00
Graduation	20.00

(Payable by all students at the beginning of the semester or session in which they expect to receive their degrees.)

Late Registration (nonrefundable)	15.00
(Not charged to students who complete registration during the regular registration days as set forth in the University Calendar.)	

Reinstatement of Student Dropped from the Rolls	3.00
Student Identification Card Replacement	10.00
Student's Record Fee	3.00

(One transcript of a student's record is furnished by the Dean of Admissions and Records without charge. This fee is charged for furnishing an additional transcript.)

Fees for Off-Campus Courses

Fees for credit hours for off-campus students are the same as those charged students enrolled in on-campus courses. Off-campus students do not pay the Daily Athenaeum Fee, the Radio Station Fee, or the Mountainlair Construction Fee. However, all students must pay a \$20.00 course fee for each off-campus course taken.

Laboratory Fees

Consult specific departmental sections of this *Catalog* concerning nonrefundable deposits and microscope rental fee.

Service Charge on Returned Checks

A service charge of \$10.00 shall be collected on each check returned unpaid by the bank upon which it is drawn.

If the check returned by the bank was in payment of University and registration fees, the Controller's Office shall declare the fees unpaid and registration cancelled if the check has not been redeemed within three days from date of written notice. In such a case the student may be reinstated upon redemption of the check, payment of the \$10.00 service charge, the Reinstatement Fee of \$3.00, and the Late Payment Fee of \$15.00.

Refund of Fees

A student who officially withdraws from University courses may arrange for a refund of fees by submitting to the University Controller evidence of eligibility for a refund.

To withdraw officially, a student must apply to the Division of Student Affairs for permission. Semester fees will be returned in accordance with the following schedule:

<i>Academic Year (Semester)</i>	<i>Refund</i>
During the first and second weeks	90%
During the third and fourth weeks	70%
During the fifth and sixth weeks	50%
Beginning with the seventh week	No Refund

Summer Sessions and Non-Traditional Periods

Refunds for summer sessions and non-traditional periods are established based upon the refund rate for the academic year. (For specific information concerning Summer Session refunds, see the appropriate *Summer Schedule of Courses*.) Should the percentage calculation identify a partial day, the entire day will be included in the higher refund period.

No part of the Activity Fee is refundable unless the student withdraws from the University.

University policy provides that students called to the armed services of the United States may be granted full refund of refundable fees, but no credit, if the call comes before the end of the first three-fourths of the semester, and that the full credit of courses be granted to persons called to the armed services of the United States if the call comes thereafter; provided, however, that credit as described above will be granted only in those courses in which the student is maintaining a passing mark at the time of departure for military service. In the recording of final grades, for three-fourths of a semester or more, both passing and failing grades are to be shown on the student's permanent record.

Identification Card

An identification card is issued to each full-time student upon paying full fees. It entitles the owner admission to certain University athletic events, various activities of student administration, Health Service, and Mountainlair. Confiscation will result from misuse. The University reserves the right to refuse reissuance of an identification card.

Residential Status for Admission and Fee Purposes

The West Virginia Board of Regents has adopted a policy regarding classification of students as residents or nonresidents for admission and fee purposes at all institutions under its jurisdiction.

1. *General.* Students enrolling in a West Virginia public institution of higher education shall be classified as resident or nonresident for admission, tuition, and fee purposes by the institutional officer designated by the President. (At West Virginia University, the Dean of Admissions and Records.) The decision shall be based upon information furnished by the student and all other relevant information. The Dean of Admissions and Records is authorized to require such written documents, affidavits, verifications, or other evidence as are deemed necessary to establish the domicile of a student. The burden of establishing residency for admission, tuition, and fee purposes is upon the student.

If there is a question as to residence, the matter must be brought to the attention of the Dean of Admissions and Records at least two weeks prior to the deadline for the payment of tuition and fees. Any student found to have made a false or misleading statement concerning residence shall be subject to institutional disciplinary action and will be charged the nonresident fees for each academic term theretofore attended.

2. *Residence Determined by Domicile.* Domicile within the State means adoption of the State as the fixed permanent home and involves personal residence within the State with no intent on the part of the applicant or, in the case of the dependent student, the applicant's parent(s) to return to another state or country. Residing with relatives (other than parent(s)/legal guardian) does not, in and of itself, cause the student to attain residence in this State for admission or fee payment purposes. West Virginia domicile may be established upon the completion of at least twelve months of continued residence within the State prior to the date of registration, provided that such twelve months residency is not primarily for the purpose of attendance at any institution of higher education in West Virginia.

Establishment of West Virginia domicile with less than twelve months residence prior to the date of registration must be supported by evidence of positive and unequivocal action. Priority consideration should normally be given to such evidence as the purchase of a West Virginia home, full-time employment within the State, paying West Virginia property tax, filing West Virginia income tax returns, registering of motor vehicles in West Virginia, and marriage to a West Virginia resident. Items of lesser importance which might be considered as support factors include registering to vote in West Virginia and the actual exercise of such right, possessing a valid West Virginia driver's license, transferring or establishing local church membership, involvement in local community activities, and various other acts which may give evidence of intent to remain indefinitely within the State. Proof of a number of these actions shall be considered only as evidence which may be used in determining whether or not a domicile has been established. Factors militating against the establishment of West Virginia residency might include such considerations as the student not being self-supporting, being claimed as a dependent on federal or state income tax returns or the parents' health insurance policy if the parents reside out of state, receiving financial assistance from state student aid programs in other states, and leaving the State when school is not in session.

3. *Dependency Status.* A dependent student is one who is listed as a dependent on the federal or state income tax return of his/her parent(s) or legal guardian or who receives major financial support from that person. Such a student maintains the same residency as that of the parent(s) or legal guardian. In the event the parents are divorced or legally separated, the dependent student takes the residence of the parent with whom he/she lives or to whom he/she has been assigned by court order. However, a dependent student who enrolls and is properly classified as a resident student maintains that classification as long as the enrollment is continuous and that student does not attain independence and establish domicile in another state.

A nonresident student who becomes independent while a student at an institution of higher education in West Virginia does not, by reason of such independence alone, attain residence in this State for admission or fee payment purposes.

4. *Change of Residence.* A student who has been classified as an out-of-state resident and who seeks resident status in West Virginia must assume the burden of providing conclusive evidence that he/she has established domicile in West Virginia with the intention of making the permanent home in this State. The intent to remain indefinitely in West Virginia is evidenced not only by a person's statements but also by that person's actions. In making a determination regarding a request for change in residency status, the Dean of Admissions and Records shall consider those actions referenced in Section 2 above.

5. *Military.* An individual who is on full-time active military service in another state or a foreign country or an employee of the federal government shall be classified as a resident for the purpose of payment of tuition and fees, provided that the person established a domicile in West Virginia prior to entrance into federal service, entered the federal service from West Virginia, and has at no time while in federal service claimed or established a domicile in another state. Sworn statements attesting to these conditions may be required. The spouse and dependent children of such individuals shall also be classified as residents of the State of West Virginia for tuition and fee purposes.

Persons assigned to full-time active military service in West Virginia and residing in the State shall be classified as in-state residents for tuition and fee purposes. The spouse and dependent children of such individuals shall also be classified as residents of the State of West Virginia for tuition and fee purposes.

6. *Aliens.* An alien who is in the United States on a resident visa or who has filed a petition for naturalization in the naturalization court, and who has established a bona fide domicile in West Virginia as defined in Section 2 may be eligible for resident classification, provided that person is in the State for purposes other than to attempt to qualify for residency status as a student.

7. *Appeal Process.* The decisions of the Dean of Admissions and Records may be appealed to the President of West Virginia University. The President may establish such committees and procedures as are determined to be appropriate for the processing of appeals. The decision of the President of West Virginia University may be appealed in writing with supporting documentation to the West Virginia Board of Regents in accord with such procedures as may be prescribed from time to time by the Board.

Regulations Affecting Degrees

Candidates for degrees are eligible for graduation when they complete the requirements in the college or school in which they are registered which were in effect at the time of their first registration in that college or school, provided they graduate within a period of seven years from the time of their first registration. Students who do not complete the requirements for graduation within seven years from their first registration must meet *all the conditions* of a later *Catalog* — one that will be no more than seven years old by the time they graduate.

If there are major changes in the *Undergraduate Catalog* during the student's course of study, the student does not have to abide by them unless they are promulgated by the Board of Regents, or by local, state, or federal law. However, by choice and with the approval of the adviser and the Dean, a student may meet *all the conditions* of a later *Undergraduate Catalog* than that under which the student first registered in that college or school.

University policy provides that in view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of WVU the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

All degrees are conferred by the Board of Regents upon recommendation of the faculties of the various colleges and schools. Degrees are granted at the close of the semester or summer session in which the students complete their work.

All candidates for degrees at WVU must report to their academic advisers and fill out an "Application for Graduation and Diploma." Application must be made during the first month of the semester or session in which the candidate expects to be graduated.

Baccalaureate Degrees

Credits Required

In addition to the University requirements listed in this *Catalog*, each baccalaureate degree is conditional upon the completion of a specified number of semester hours of credit, as determined by the student's degree program requirements. Therefore, students must familiarize themselves with their school and degree program requirements.

English Composition and Rhetoric

Two semesters of English Composition and Rhetoric (English 1 and 2) are required of all candidates for the bachelor's degree in all colleges and schools of the University, unless part or all of the requirement for certain students of superior achievement is waived under regulations prevailing at the time of admission. Such students will be informed of their eligibility by the Coordinator of Writing Programs in English.

University Core Curriculum

To qualify for graduation, all WVU students must satisfy the requirements of the University Core Curriculum. The separate colleges and schools determine the time at which students take Core courses during their total program of study at the University.

The purpose of the Core Curriculum is to encourage the acquisition of a liberal education. A liberal education presupposes the capacity for synthesizing knowledge of the humanities, social sciences, natural sciences, and mathematics. Such a synthesis of both past and contemporary knowledge can make possible the intellectual flexibility needed to develop values, attitudes, tastes, and traits associated with the educated person in the modern world. Three areas within the Core Curriculum are recognized:

Core A (The study of the accumulated knowledge and experience contained in world literature, fine arts, religion, and philosophy)—

Selected courses in Art, English (exclusive of English 1 and 2), Humanities, Languages, Multidisciplinary Studies, Music, Philosophy, Religious Studies, Speech Communication, and Theatre.

Core B (The study of man's interaction with man and with society in the social, historical, political, economic, and similar contexts)—

Selected courses in Economics, Education Foundations, Forestry, Geography, History, Mineral Resources, Multidisciplinary Studies, Political Science, Psychology, Social Science, Sociology and Anthropology, and Technology Education.

Core C (The study of mathematical and natural sciences designed to foster individual acquisition of knowledge and skills necessary for scientific inquiry)—

Selected courses in Agricultural Microbiology, Biology, Chemistry, Computer Science, Economics, Entomology, Genetics, Geology, Mathematics, Multidisciplinary Studies, Nutrition, Physical Science, Physics and Astronomy, Physiology, and Statistics.

Twelve credit hours including at least two subjects must be taken in each area. (Two 4-credit courses and one 3-credit course may be substituted in lieu of 12 credit hours.)

The determination as to whether ROTC courses will be counted toward fulfillment of the Core Curriculum or will be counted as free electives is the prerogative of the department chairperson or dean of the appropriate college or school.

[A listing of courses qualifying for Core Curriculum credit is given in each college or school section of the *WVU Undergraduate Catalog*.]

Branch, Community, and Junior Colleges

Seventy-two hours of credits and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia system of higher education may be applied toward a baccalaureate degree at WVU. Transfer credit for college-parallel courses completed at other community colleges and junior colleges may not exceed 72 hours. Transfer credit from community colleges and junior colleges is normally limited to lower-division courses.

Requirements As to Residence

A student who comes to WVU from another college or university should transfer not later than the beginning of the third year. In no case will a student who matriculates in WVU later than October 1 in any year be permitted to receive a degree at the next commencement.

In special cases, students who desire to leave WVU at the close of their third year to enter another institution for the purpose of taking a combined course leading to two degrees or of preparing for graduate study, upon application beforehand to the Committee on Academic Standards of the college or school in which they are registered, may be permitted to do the work of the fourth year, or a part thereof, at such other institution and to receive the bachelor's degree from WVU upon presentation of the proper credits.

The transfer student whose undergraduate work has been altogether in institutions within the West Virginia state system of higher education must complete either the last 30 hours of work, or a minimum of 36 hours including 16 of the last 32 hours in residence. Other transfer students must complete either a total of at least 90 hours or the last 30 hours in residence at WVU. The transfer student may be required to earn up to 15 hours in the major field in residence regardless of the number of hours and the nature of the courses transferred.

Work Done Out of Residence

It is WVU policy to discourage the taking of regular residence courses in absentia. In the case of courses begun at WVU and not completed because of illness or for other acceptable reasons, however, permission to complete the work in absentia under the direction of regular WVU instructors may be granted by the Committee on Academic Standards of the college or school concerned; but in such case credit should be given only upon a report of a grade of no less than C on final examination. This regulation does not apply to WVU off-campus courses.

If the final grade of a student in any course is F, the student must take the course again in residence at WVU if the student desires to receive credit for it, unless the dean of the college or school authorizes the exception.

A student currently enrolled in WVU who wishes to obtain credit toward a WVU degree for courses offered at other institutions should obtain advance approval in writing from the adviser, dean, and the Dean of Admissions and Records. Some courses at some institutions are not directly transferable to WVU credit and, thus, the student runs the risk of losing such credit unless prior approval has been obtained. A student wishing to transfer credit from another institution should also be aware of the "Requirements As to Residence" and the specific degree requirements described elsewhere in this *Catalog*. Transfer credit from institutions outside the West Virginia state system will be accepted only for courses carrying a grade of C or higher when conditions indicated above have been met.

A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at WVU upon readmission to the University. After one semester of satisfactory performance (C average or better on a minimum of 12 credit hours earned during the regular semester or during the summer sessions) the appropriate transfer credit will be entered into the student's record upon certification by the adviser and dean that the above conditions have been met.

Substitution for Required Courses

A student who desires to substitute another course for any prescribed in the student's curriculum or required for the degree toward which the student is working must obtain permission for such substitution from the Committee on Academic Standards in the student's college or school.

Advanced Placement Credit

West Virginia University encourages students to work to their full capacity and to advance as rapidly as appropriate in their academic work. A number of opportunities are open to both qualified high school juniors and seniors, as well as to adults returning to school after an interval of work or military experience, to demonstrate competence beyond that normally associated with graduation from high school.

High school students who take college-level subjects offered in their schools in cooperation with the College Entrance Examination Board (CEEB) Advanced Placement Program should take the appropriate three-hour examinations administered by the Advanced Placement Service and have the scores sent to WVU. Credit for corresponding WVU courses will be given for high achievement on these tests.

Applicants for admission to the University, especially those who have gained a significant level of maturity through their life experiences, may gain college credit for their educationally related experiences through the College Level Examination Program (CLEP) of the CEEB. Policy of the West Virginia Board of Regents allows University credit to be awarded for successful completion of any of the CLEP Subject Examinations, except English composition, as well as allowing up to 34 hours of general education credit for successful performance on the CLEP General Examinations. Although the program is designed primarily for adults, exceptionally well qualified high school seniors may find it advantageous to seek advanced standing via the CLEP program. Interested applicants may write the Dean of Admissions and Records for further information regarding the CLEP program and WVU credit.

Advanced placement also may be granted for specific military experience. Returning veterans should consult the Dean of Admissions and Records for details.

After admission to WVU, students may elect to take examinations demonstrating their competence in particular course work. Credit or advanced placement is given for satisfactory completion of the tests. Students interested in challenging courses by examination should consult their advisers for procedures and details.

Credit by Examination

Students actively enrolled in WVU may receive credit for courses demonstrating competency in the content covered by a particular course. The department responsible for administering the course will determine the evaluation tools. Where skill and cognitive abilities are components of the course, both will be evaluated. Credit will be given if a satisfactory degree of competency is demonstrated.

A college, school, or department may require students desiring such credit to prepare a self-evaluation statement determining the degree of competency they possess and the methods by which it was achieved.

Students interested in receiving credit for a course by examination should consult the college or school in which the course is offered for procedures and details.

Credit for Correspondence Work

Credit up to a maximum of 30 semester hours for work completed by correspondence in nonlaboratory courses will be accepted by WVU when such work is given by accredited colleges or universities that accept work for credit toward their own degrees and whose residence work is accepted by WVU.

Second Bachelor's Degree

A student who has received one baccalaureate degree and wishes to receive a second baccalaureate degree must satisfactorily complete enough additional credits so that the total, including all acceptable credits earned at WVU and elsewhere, is at least 30 semester hours more than the number required for the first baccalaureate degree; all requirements, departmental and otherwise, of the second baccalaureate degree program must be satisfied. In no case will a second baccalaureate degree be awarded to a student who has not met the University residence requirement (see "Requirements As to Residence").

A student who wishes to receive simultaneously two baccalaureate degrees must satisfactorily complete a minimum of 158 credits and meet all requirements, departmental and otherwise, of both degree programs. Students desiring to receive simultaneous baccalaureate degrees must be admitted to both programs and provide the Office of Admissions and Records of the college or school approvals in writing.

(Effective Date: Students graduating after August 31, 1979.)

Visitors

Full-time University students may attend classes as visitors, provided they obtain the written permission of their advisers and of the instructors in classes they desire to visit. Members of the administrative or teaching staffs, or other regular employees of the University, may attend classes as visitors provided they obtain written permission of the chairpersons of their departments and of the instructors in the classes which they desire to visit.

No credit is given for work in such classes. Such persons may not obtain credit by advanced standing examinations in courses attended as visitors.

Auditors

Students may enroll in courses without working for grade or for credit by registering as auditors and by paying full fees. Change in status from audit to credit or from credit to audit may be made during the registration period. Attendance requirements for auditors shall be determined by the instructor of the course being audited. It is the prerogative of the instructor to strike the name of any auditor from grade report forms and to instruct the Office of Admissions and Records to withdraw the auditor from the class, if attendance requirements are not met.

Summer Sessions

There are two summer sessions, each of six weeks duration. The first session begins approximately the middle of May and ends June 30. The second session begins July 1, and ends the second week of August. Requirements for admission and character of the work offered are the same for the summer sessions as for the regular academic year.

Credit may be obtained toward the bachelor's, master's, and doctorate. Offerings are varied from summer to summer so that students may complete work for the master's degree by attending summer sessions only.

For complete information, see the *WVU Summer Sessions Schedule of Courses*.

Grade-Point Average

All academic units of the University require minimum standards of scholastic quality. Grade points are computed only on grades earned at WVU and at other institutions in the West Virginia state system of higher education. To be eligible for graduation, a student must have a grade-point average of 2.0 (C) or higher on all work for which the student receives grades (except W, WU, and P). In addition, specific degree programs may require minimum grades of C, or in some cases higher than C, in specific courses or portions of the baccalaureate program.

It is the student's responsibility to keep informed of the student's grade-point standing. This information may be obtained at any time from the dean of the college or school in which the student is registered.

Seventy-two hours of credit and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia system of higher education may be applied toward a baccalaureate degree at WVU. Transfer credit for college-parallel courses completed at other community colleges and junior colleges is normally limited to lower-division courses.

Graduation With Honors

The University recognizes distinguished academic achievement by awarding initial and second baccalaureate degrees *Summa Cum Laude*, *Magna Cum Laude*, or *Cum Laude*, to qualified students. The following regulations govern these awards:

1. Grade-point averages for graduation *Summa Cum Laude*, *Magna Cum Laude*, or *Cum Laude* shall be computed by starting with the student's penultimate semester or summer session and continuing in reverse chronological order until at least 80 semester hours, excluding credits earned with a grade of P, have been counted. If, in order to total the required number of hours it is necessary to include any part of a semester or summer session, the work of the whole semester or session shall be included.

2. Students who transfer to WVU may be eligible for graduation with honors based on the computational system stated above.

3. Subject to the above conditions, all candidates for a baccalaureate degree whose grade-point average is 3.8, or higher, shall be graduated *Summa Cum Laude*. Those whose average is lower than 3.8, but equal to or higher than 3.6, shall be graduated *Magna Cum Laude*. Those whose average is lower than 3.6, but equal to or higher than 3.4, shall be graduated *Cum Laude*.

4. Fitting recognition of graduation *Summa Cum Laude*, *Magna Cum Laude*, or *Cum Laude* shall be made on the candidate's diploma and in the Commencement Program.

(This policy became effective for all students whose first enrollment in an institution of higher education was on or after May 15, 1979.)

Students completing a second baccalaureate degree at the University are eligible to receive the honors distinction of *Summa Cum Laude*, *Magna Cum Laude*, or *Cum Laude*. The following regulations govern these awards:

1. Grade-point averages for graduation with honors shall be computed on the last 80 semester hours, excluding credits earned with a grade of P or S, completed at West Virginia University or a West Virginia Board of Regents institution.

2. At least 30 of the 80 semester hours must have been completed in the second degree program through the penultimate semester or summer session.

The remainder of the 80 semester hours will be counted from the student's first baccalaureate degree program, counting in reverse chronological order from the semester or summer session of graduation. If, in order to total the required number of hours it is necessary to include any part of a semester or summer session, the work of the whole semester or session shall be included.

3. Subject to the above conditions, second baccalaureate degree students may be awarded the following honors recognition: *Summa Cum Laude*, provided a grade-point average of 3.8 or higher has been achieved in both the post-baccalaureate hours and the last 80 hours; *Magna Cum Laude*, provided a grade-point average of 3.6 or better has been achieved in both the post-baccalaureate hours and the last 80 hours; or *Cum Laude*, provided a grade-point average of at least 3.4 has been achieved in both the post-baccalaureate hours and the last 80 hours.

4. Fitting recognition of graduation *Summa Cum Laude*, *Magna Cum Laude*, or *Cum Laude* shall be made on the candidate's diploma and in the Commencement Program.

Examinations and Reports

Courses

As a rule courses extend through one semester only, although some are of a year's duration. No credit will be given for less than an entire course except by special order of the Committee on Academic Standards. Grades given at the end of the first semester in courses extending throughout the year are merely indicative of the quality of work done by the student to that point and do not give credit for the part of the course so far completed. Such first-semester grades may be considered in determining the final grade, however.

Summer sessions courses carry the same credit value as courses offered in the regular semesters.

Evaluation of Student Progress

Measurement and evaluation of learning, consistent with the objectives of the course, provide opportunity for the student and the teacher to evaluate progress through a variety of methods. Evaluation by final examination alone is discouraged.

Students are responsible for all materials presented or assigned in scheduled instructional sections. Failure to complete all assigned work may result in a report of I or a grade of F at the discretion of the instructor.

Final examinations are held during the last week of each semester of the academic year and during the last two days of each summer session. A listing in the *Schedule of Courses* each semester sets the time for final examinations.

The only tests permitted during the week of classes preceding finals will be in evening classes, practical laboratory tests, make-up examinations, and regularly scheduled short quizzes.

Absence From Examinations

The student is required to take all regular examinations. If a student attends a course throughout the semester and is absent from the final examination without permission, the instructor shall count the examination as zero and report the final grade as F. If, in the opinion of the instructor, the absence of the student was for satisfactory reason, the grade of I may be reported.

A student who has been absent because of illness, authorized University activities, or other reasons approved by the student's dean, has the opportunity to make up regularly scheduled examinations.

Grade Reports

In the seventh week of classes of each semester, instructors in all undergraduate courses shall submit a report of students doing unsatisfactory work; that is, earning grades of D or F. These grades are used for counseling and are not recorded on the student's permanent record in the Office of Admissions and Records. These reports are sent to the Dean of Admissions and Records or a representative and this information is transmitted to the student, parent or guardian, adviser, and dean of the college or school.

Final grades are reported by instructors directly to the Office of Admissions and Records within 48 hours after the closing of the examination. The rule also applies to the final grades of all students registered in other colleges and schools of WVU who are enrolled in law courses

The final standing of all seniors provisionally approved for graduation at the close of the second semester shall be reported by their instructors to the deans of their colleges and schools, and the final standing of all graduate students provisionally approved for graduation shall be reported to the Associate Vice-President for Graduate Studies and Research. Special report cards are supplied by the Dean of Admissions and Records.

A report of each student's work is made at the close of the semester or summer session to the student or to the student's parents or guardian.

Grading, Absences, Academic Standing, Probation, Suspension, Reentry, Withdrawals

Grading System

- A — excellent (given only to students of superior ability and attainment)
- B — good (given only to students who are well above average, but not in the highest group)
- C — fair (average for undergraduate students)
- D — poor but passing (cannot be counted for graduate credit)
- F — failure
- I — incomplete
- W — withdrawal from a course before the date specified in the University Calendar. Students may not withdraw from a course after the specified date unless they withdraw from the University
- WU — withdrawal from the University doing unsatisfactory work
- P — pass (see Pass-Fail Grading below)
- X — auditor, no grade and no credit
- CR — credit but no grade
- PR — progress. Final grade at end of the second semester (Medical Center)
- S — satisfactory
- U — unsatisfactory (equivalent to F)

Pass-Fail Grading

The basic purpose of pass-fail grading for undergraduates at WVU is to promote the undertaking of elective courses unrelated to the student's fields of degree concentration. A secondary purpose of pass-fail grading is to facilitate student grading in performance or competency based courses which may be an integral part of the student's program.

Student Option. Any full-time student who has completed 15 hours and maintains a 2.0 grade-point average may elect to take a maximum of 4 hours each semester or each summer session in which the grade earned will be either P (pass) or F (fail). The courses taken for pass-fail grading must be free electives and shall not exceed a total of 18 hours of credit. Unless otherwise indicated, excluded are courses in the student's major, courses in other subjects that are required by the major, and courses taken to satisfy either University, college, or school requirements. For example, courses elected to satisfy the English, Core, or Foreign Language requirements may not be taken for pass-fail grading.

The student electing the pass-fail grading option will be graded as a regular student and the appropriate letter grade will be submitted to the Office of Admissions and Records. The Office of Admissions and Records shall convert the earned letter grade to P-F on the basis of A, B, C, or D for a pass, and F for a fail.

The selection of a course for pass-fail grading must be made at registration and may not be changed after the close of the registration period.

College or School Option. A department or unit may designate any performance or competency based course which, with the approval of the college or school and the Faculty Senate, may be offered exclusively as P-F. Such courses offered only as P-F shall not be included in the maximum of 18 hours that may be freely elected under the student option.

(This revised policy became effective as of the beginning of the First Semester, 1977-78, for grading under the Student Option.)

Grade Points

Grade points are based on the following grade-point values for each semester of credit:

A	B	C	D	F	I	U
4	3	2	1	0	0	0

The grade-point average is computed on all work for which the student has registered with the following exceptions:

(a) Courses with W, WU, P, S, and X.

(b) If an undergraduate student earns a grade of D or F in any course at WVU taken no later than the semester or summer session registration when a cumulative total of 58 hours has been attempted, and if this course is repeated in residence at WVU, one time only, the lower grade shall be disregarded for the purpose of determining the student's grade-point average, hours passed and hours attempted, and the higher grade earned for this course shall be used in determining the student's grade-point average, hours passed and hours attempted. The first grade recorded shall not be deleted from the student's record and the second grade will be entered marked repeat, in the semester when taken. The repeat shall be completed no later than the semester or summer session registration when a cumulative total of 70 hours has been attempted. (Effective Date: For students enrolled for the first time at West Virginia University for a session after May 15, 1979.) Provided, however, that

when a student receives a grade of I and later removes the incomplete grade, the average grade-point standing shall be calculated on the basis of the new grade.

If the final grade of a student in any course is F, the student must take the course again in residence at WVU if the student desires to receive credit for it, unless the dean of the college or school authorizes the exception. The grade of I is given when an instructor believes that the course work is unavoidably incomplete or that a supplementary examination is justifiable. The grade of I must be removed within the following semester or the next semester in which the student is in residence, and becomes a failure unless special permission is granted by the appropriate Committee on Academic Standards to postpone removal.

For teacher certification the student is responsible for every registration in a course for which a grade of A, B, C, D, F, WU, P, or I is received.

Absences

Students who are absent from class for any reason are responsible for work missed.

Students should understand that absences may jeopardize their grades or continuance in the course.

Instructors who use absence records in the determination of grades must announce this fact to students (in writing) within the first five class meetings.

It is the responsibility of the instructor to keep an accurate record of all students enrolled.

Instructors may report excessive absences to the student's dean or adviser.

Students who have been absent because of illness, authorized University activities, or other reasons approved by their deans, have the opportunity to make up regularly scheduled examinations.

Final Grade Appeals

Students have the right to appeal final course grades which they believe reflect a capricious, arbitrary, or prejudiced academic evaluation, or reflect discrimination based on race, color, creed, sex, or national origin. The grade appealed shall remain in effect until the appeal procedure is completed, or the problem resolved. The primary intent of this procedure is to provide a mechanism whereby a student might appeal a failing grade or a grade low enough to cause the student to be eliminated from some program or to require the repeat of a course. Grade appeals that do not meet this classification are not precluded. It is understood that an extension of time in the procedural steps may be granted students if in the professional judgment of the chairperson or the dean such an extension is warranted.

Appeal Procedure

Step 1. The student shall discuss the complaint with the instructor involved prior to the end of the succeeding regular semester, whether enrolled or not. If the two parties are unable to satisfactorily resolve the matter within two weeks, the student shall notify the chairperson of the instructor's department or division (or, if none, the dean). (The chairperson or dean will assume the role of an informal facilitator and assist the student and instructor in their resolution attempts.) If the problem is not resolved, the student may proceed directly to Step 2. If the instructor is not available, or if the nature of the complaint makes discussion with the instructor inappropriate, the student shall proceed directly to Step 2.

Step 2. The student must prepare and sign a document which states the facts constituting the basis for the appeal. Copies of this document shall be given to the instructor and to the instructor's chairperson (or, if none, to the dean). If, within ten working days of receipt of the student's signed document, the chairperson cannot resolve the problem to the satisfaction of the student and instructor involved, the complaint will automatically be forwarded to Step 3.

Step 3. Within one week of receipt of the complaint, the instructor's dean shall make a determination regarding the grade, making any recommendation for a grade change to the instructor involved. If the instructor involved does not act on the dean's recommendation, or if the student is in disagreement with the decision of the dean, the case will be referred to a representative body of the instructor's department or college or school for final resolution. The number and make-up of this body is to be determined by the appropriate dean. In cases of an appeal to this body, the faculty member involved shall receive written notification of the grade challenge which shall include a statement of the facts and evidence to be presented by the student in support of the charges made with sufficient clarity to reasonably disclose the claim for a grade change. The faculty member involved and the student making the appeal shall receive written notification that a hearing will be held before the department or college or school committee together with the notice of the date, time, and place of the hearing. The final decision of this body shall be forwarded to the instructor involved. If the decision requires a change of grade, the instructor shall take action in accordance with the committee's decision. If the instructor does not act within five days, the dean will make the necessary grade adjustment. Implementation of this decision shall end the appeal procedure.

Probation, Suspension, Reentry Policy

Uniform Probation

Any undergraduate student whose cumulative average is 2.0 or higher is in good academic standing in the University. Every baccalaureate degree requires a minimum grade-point average of 2.0 for graduation. (Nothing in this statement prevents a unit from requiring a minimum grade-point average above 2.0, or other academic requirements.)

Students whose cumulative grade-point average is below 2.0 will be notified on semester grade reports that their academic performance is unsatisfactory. Such students may be subject to probation by the dean of their college or school. Students are not on probation until notified, in writing, by their dean, who will establish the terms of their probation.

Uniform Academic Suspension Regulations

The student whose cumulative grade-point deficiency exceeds the "allowable grade-point deficiency" (see Table) is subject to suspension. Normally, students will be suspended only at the end of the academic year; students exceeding the maximum allowable grade-point deficiency at other times may be put on probation or otherwise warned. However, nothing in this provision shall prevent a dean from suspending a student at any other time of the year if the student's grade-point deficiency exceeds the allowable maximum.

Academic suspension identifies the status of a student who has failed to meet the University minimum standards and who has been notified formally by the dean of the college or school of academic suspension. Action on academic suspension is to be taken by the appropriate dean at the end of each

Maximum Allowable Grade-Point Deficiency*

Total Hours Attempted**	Maximum Grade-Point Deficiency**	Total Hours Attempted**	Maximum Grade-Point Deficiency**
0-19	20	55-59	12
20-24	19	60-64	11
25-29	18	65-69	10
30-34	17	70-74	9
35-39	16	75-79	8
40-44	15	80-84	7
45-49	14	85 or more	7
50-54	13		

*The grade-point deficiency is the difference between the number of grade points needed for a 2.0 average and the number of grade points that a student has actually earned in all courses attempted.

**Includes all hours attempted in institutions in the West Virginia System of Higher Education excluding grades of P, exclusive of the D-F Repeat Policy.

semester and such action is to be based on a special report from the Dean of Admissions and Records. The sequence of events in bringing about this action is:

1. The Dean of Admissions and Records will forward a special report at grade-reporting time to the college or school deans for appropriate action.
2. The Dean of Admissions and Records will provide the Vice-President for Academic Affairs and Research with a list of students subject to suspension in each college or school.
3. Deans will report to the Vice-President for Academic Affairs and Research the action taken on the students reported to them for academic suspension by the Dean of Admissions and Records.

Deans have the authority to waive suspension in favor of probation if in their judgment the circumstances of individual cases so warrant. The suspension rule will be set aside only under extraordinary conditions.

Suspension from the University means that a student will not be permitted to register for any classes, including those in summer sessions, offered by the University for academic credit until the student has been officially reinstated. The normal period of suspension is a minimum of one academic semester, but will not exceed one calendar year from the date of suspension.

Students who have been suspended may petition the Committee on Academic Standards of the college or school to which they wish to be readmitted in care of the dean. The normal periods for consideration of petitions are October 1-November 15 and March 1-April 15 of each academic year.

A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at WVU upon readmission to the University. After one semester of satisfactory performance (C average or better on a minimum of 12 credit hours earned during a regular semester or during the summer sessions) the appropriate transfer credit will be entered into the student's record upon certification by the adviser and dean that the above conditions have been met.

Readmission After Suspension

During the semester immediately following the effective date of suspension, suspended students may petition in writing for readmission. The college or school petitioned shall establish the terms of readmission for successful student petitioners.

After one calendar year from the effective date of suspension any student who has been once suspended shall, upon written application, be readmitted to the University, with the terms of readmission to be established by the college or school entered by the readmitted student.

A suspended student who is readmitted under the provisions above will be placed on academic probation and will be subject to the maximum grade-point deficiency regulations as before, unless the terms of probation agreed to by the student require otherwise. Each college or school will have the right to establish minimum levels of performance expectations.

(Effective: August 15, 1980, for all students.)

Withdrawals

Withdrawal From Classes

Deadlines: Until the Friday of the tenth week of class (or Friday of the fourth week in a six-week summer session, or Friday of the second week of a three-week summer session), students may withdraw from individual courses. Deadlines will be published in the *University Schedule of Courses* each semester.

Procedures:

1. Before withdrawing from individual classes, students are responsible for consulting their advisers to determine:

(a) Whether their course loads would be reduced below the minimum requirements set by their colleges or schools (if so, permission of the Committee on Academic Standards of the respective college or school is required *before* the course adjustment form may be submitted); or

(b) Whether their course loads would be reduced below the minimum number of hours required to qualify for special status, e.g., financial aid, varsity athletic competition, or international full-time student status; or

(c) Whether the courses to be dropped are required to fulfill academic probationary conditions; *and/or*

(d) Whether the courses from which they desire to withdraw might be

(1) Corequisite with other courses they are taking; or

(2) Prerequisite to other courses required for the next term.

2. Students must obtain adviser signatures on the University course adjustment forms and then submit the forms to the Office of Admissions and Records.

3. Students who withdraw from courses following all the established University procedures before the published deadline will receive a W on the transcript for the appropriate courses. Grade-point averages are not affected in any way by this mark.

Withdrawal From the University

Deadlines: Students may withdraw from the University *any time before the last day* on which regular classes are scheduled to meet. Students who

withdraw from the University before the Friday of the tenth week of classes (or the Friday of the fourth week in a six-week summer session, or the Friday of the second week of a three-week summer session) will receive grades of W in all their courses for that semester or session. Students who withdraw after these deadlines will receive grades of W in those courses in which satisfactory progress had been made; they will receive grades of WU for courses in which progress had been unsatisfactory.

Procedures:

1. Students who decide to leave WVU should withdraw from all classes and must do so in accordance with established University policy. Students are responsible for all *financial obligations* and for following established procedures, including the completion of forms and the delivery of the completed forms to appropriate officials. Students not fulfilling these financial obligations may have difficulty withdrawing from the University. The withdrawal becomes official only after the forms have been recorded by the Dean of Admissions and Records.

2. Students who are unable to withdraw in person because of illness, accident, or other valid reasons, still must send to the Office of Student Life notification of their intention to withdraw. The notice should be verified in writing and the student ID and PRT cards enclosed.

3. Students who desire to withdraw from WVU must obtain a withdrawal form from the Student Affairs office (or dean's office of an off-campus instructional unit). Withdrawal procedure will be explained at that time. Identification (ID) and PRT cards must be presented.

4. With the help of their academic advisers, students are responsible for determining how withdrawal from the University may affect their future status with the University, including such aspects as suspension for failure to make progress toward a degree or violation of established academic probation and eligibility for scholarships, fellowships, or financial aid.

Re-Enrollment After Withdrawal

An undergraduate student who withdraws from WVU in two consecutive semesters (excluding summer sessions) may not register for further work without approval of the dean of the college or school in which the student wishes to register and subject to conditions set by that dean.

Advisers, Committee on Academic Standards

Advisers

Each student entering WVU is assigned an adviser whose duty is to assist students in preparing schedules, assign them to classes, and certify their study lists to the Dean of Admissions and Records. The advisers are expected to give such advice and sympathetic guidance as the students may need in their work at the University. Students are expected to go freely to their advisers to discuss problems.

Advisers, upon receipt of reports of excessive numbers of absences, shall have conferences with the student concerned and shall make such recommendations and adjustments as are desirable and feasible. If the adviser does not find a satisfactory solution after a conference with the student, the case shall be reported to the dean of the college or school.

Committee on Academic Standards

The Committee on Academic Standards of each college or school shall have authority to proceed according to its best judgment in regard to students referred to it for consideration.

All orders of the committee shall become effective when approved by the dean of the college or school.

In exercising its authority the committee shall not suspend a student during a semester except for willful neglect and in cases where the student's class grades are so low that further class attendance would be a waste of time. No suspension shall become effective until approved by the dean of the college or school.

Academic Dishonesty

The academic development of students and the overall integrity of the institution are primary responsibilities of WVU. Academic dishonesty is condemned at all levels of life, indicating an inability to meet and face issues and creating an atmosphere of mistrust, disrespect, and insecurity. In addition, it is essential in an academic community that grades accurately reflect the attainment of the individual student. Faculty, students, and administrators have shared responsibilities in maintaining the academic integrity essential for the University to accomplish its mission.

Responsibilities

Students should act to prevent opportunities for academic dishonesty to occur, and in such a manner to discourage any type of academic dishonesty.

Faculty members are expected to remove opportunities for cheating, whether related to test construction, test confidentiality, test administration, or test grading. This same professional care should be exercised with regard to oral and written reports, laboratory assignments, and grade books.

Deans and department chairpersons are expected to acquaint all faculty with expected professional behavior regarding academic integrity, and to continue to remind them of their responsibility. Deans and department chairpersons shall assist faculty members and students in handling first-offense cheating allegations at the lowest possible level in the University, and with discretion to prevent damage to the reputation of any person who has not been found guilty in the prescribed manner.

Each member of the teaching faculty and all other WVU employees, including but not limited to assistants, proctors, office personnel, custodians, and public safety officers, shall promptly report each known case of academic dishonesty to the appropriate supervisor, department chairperson, or dean of the college or school concerned.

Academic Dishonesty Defined

Academic dishonesty is defined to include any of the following:

1. Plagiarism: Submitting for credit, without appropriate acknowledgment, a report, notebook, speech, outline, theme, thesis, dissertation, or other written, visual, or oral material that has been knowingly obtained or copied in whole or in part from another individual's academic composition, compilation, or other product, or commercially-prepared paper.
2. Cheating and dishonest practices in connection with examinations, papers, and projects, including but not limited to:
 - a. Obtaining help from another student during examinations.

- b. Knowingly giving help to another student during examinations, taking an examination or doing academic work for another student, or providing one's own work for another student to copy and submit as his/her own.
 - c. The use of notes, books, or any other source of information during examinations, unless authorized by the examiner.
 - d. Obtaining without authorization an examination or any part thereof.
3. Forgery, misrepresentation or fraud:
- a. Knowingly furnishing false statements in any University academic disciplinary proceeding.
 - b. Forging or altering, or causing to be altered, the record of any grade in a gradebook, office or other education record.
 - c. Use of University documents or instruments of identification with intent to defraud.
 - d. Presenting false data or intentionally misrepresenting one's records for admission, registration or withdrawal from the University or from a University course.

Procedure for Handling Academic Dishonesty Cases

1. Procedures for infractions of institutional academic standards, rules and regulations are published in the *University Catalog* and other written documents and are binding on all students.

2. Procedure for academic dishonesty including: plagiarism; cheating and dishonest practices in connection with examinations, papers and projects; and forgery, misrepresentation and fraud. Charges may be filed by any member of the academic community.

- a. *Step 1.* At the discretion of the student, faculty member, and chairperson of the department, some cases where there is an admission, in writing, of guilt by the student may be satisfactorily resolved at the departmental level. The maximum penalty at Step 1 is an F in the course. Whenever a penalty is administered, the facts of the case shall be reported in writing to the dean of the college or school, and a copy forwarded to the Office of Judicial Programs in Moore Hall for the permanent records.

In cases wherein cheating occurs in a college or school other than that in which the student is a degree candidate, the results of the case shall be reported to the dean of the college or school in which the student involved is enrolled.

- b. *Step 2.* When the student denies guilt, or the faculty member or department chairperson feels the penalties available at Step 1 are insufficient for a specific act, the dean of the college or school in which the course is offered shall be notified in writing of the specifics of the case. The dean shall then implement the following steps:
 - (1.) Formal notification to the student of the charges and the nature of the evidence, which if proved would justify action.
 - (2.) Opportunity for the student and witnesses to respond in writing, rebutting the charges.
 - (3.) Opportunity for the student to request that the case be forwarded by the dean to the University Conduct/Appeals Committee (Step 3).
 - (4.) If the student admits guilt in a signed statement to the dean, or is found guilty, the dean shall prescribe the penalty deemed

appropriate. The dean shall promptly report thereon in writing to the Office of Judicial Programs. A copy of such report will also be forwarded to the dean of the college or school in which the student is enrolled. The purpose of this copy of the report is to provide information in the event that further discipline or penalty may be deemed warranted by the dean of the college or school in which the student is a degree candidate. These records will be maintained by the dean(s) until the student graduates, at which time the records will be destroyed.

- c. *Step 3.* The University Conduct/Appeals Committee shall handle cases referred by a dean or requested by a student. The case must be heard using the University Conduct/Appeals Committee guidelines. The University Conduct/Appeals Committee shall present to the accused student and to the person making the accusation written notification of the charges, which shall include at least: (a) a statement that a hearing will be held before the University Conduct/Appeals Committee together with the notice of the date, time and place of the hearing; and (b) a clear statement of the facts and evidence to be presented in support of the charges made. If the University Conduct/Appeals Committee finds the student guilty, it will determine the penalty it deems appropriate under the circumstances and inform the student of its actions. The action taken by the University Conduct/Appeals Committee shall be final.

Criminal Act in Connection With Cheating

If a student admits in writing that he/she has been guilty of academic dishonesty or is found guilty of academic dishonesty by the University Conduct/Appeals Committee, in a case involving what is believed to be a criminal offense—such as theft of an examination or test materials, alteration of records, forgery, breaking or entering buildings, offices, desks, safes, or filing cabinets, damage to property, and other similar misconduct—the academic penalties and discipline as herein prescribed shall be applied. In addition, the facts of the case will be presented to the appropriate prosecuting attorney for further investigation and for such criminal or other action as may be warranted.

Dismissal From an Undergraduate Program

Dismissal from an undergraduate program based on program and/or professional performance standards other than cumulative grade-point average:

1. Reasons must be based on *Catalog* and other written documents describing academic performance standards and expectations.

2. Procedural

Step 1. Counseling by departmental committee or representative as soon as possible after discovery of problem.

Step 2. Second counseling by departmental committee or representative after opportunity to improve if performance has not changed sufficiently.

Step 3. Formal review of student's status by departmental or program committee to determine:

- a. Student retained or recommended for dismissal.
- b. Counseling or remediation steps required as a condition of retention.
- c. Appeals if recommended for dismissal.

Step 4. A dismissal decision by the dean of the student's school or college may be appealed to the University Conduct/Appeals Committee which will hold a hearing. The student may be advised by a person of his/her choice in the hearing.

Step 5. A decision for dismissal must be reviewed by the appropriate academic Vice-President who may confirm or remand the recommendation with specific conditions for the review process.

Step 6. A recommendation for dismissal by the University Conduct/Appeals Committee confirmed by the appropriate academic Vice-President may be appealed to the President whose decision is final.

Dismissal From a Graduate Or a Professional Program

Dismissal from a graduate or professional program based on program and/or professional performance standards other than cumulative grade-point average:

1. Reasons must be based on *Catalog* and other written documents describing academic and professional performance standards and expectations.

2. Procedural

Step 1. Counseling by departmental committee or representative as soon as possible after discovery of problem.

Step 2. Second counseling by departmental committee or representative after opportunity to improve if performance is not changed sufficiently.

Step 3. Formal review of student status by department or program committee to determine:

a. Student retained or recommended for dismissal.

b. Counseling or remediation steps required as a condition of retention.

c. Appeals available if dismissal recommended.

Step 4. A dismissal decision by the dean of the student's school or college may be appealed to the University Conduct/Appeals Committee which will hold a hearing using the following procedures:

a. The student may be advised by a person of his/her choice to assure due process protection not to affect the outcome of the proceedings.

The adviser may consult with the student but shall not speak on behalf of the student or participate directly unless granted specific permission by the University Conduct/Appeals Committee.

b. The formal rules of evidence do not apply.

c. The administrative procedure is not adversarial in nature.

d. Witnesses may be presented and examined under oath.

e. An accurate record of the procedure is to be kept. The student may request a transcript of the proceedings at the student's expense.

f. An academic appeals committee has the right to counsel in those proceedings in which the student has retained counsel. Such counsel may not speak on behalf of the institution or otherwise participate directly in the proceedings.

Step 5. A decision for dismissal must be reviewed by the appropriate academic Vice-President who may confirm or remand the recommendation with specific instructions.

Step 6. Recommendation for dismissal confirmed by the appropriate academic Vice-President may be appealed to the President. The decision of the President is final.

Medical Center Basic Sciences— Programs and Courses of Instruction

The Departments of Anatomy, Biochemistry, Microbiology, Pharmacology and Toxicology, and Physiology offer individual graduate programs leading to the M.S. and Ph.D. degrees and provide courses for students of medicine, dentistry, pharmacy, nursing, and other allied health professions.

(Detailed information concerning graduate studies academic information is presented in the *WVU Graduate Catalog*.)

Anatomy

The Department of Anatomy offers graduate programs which are committed to the training of competent researchers and capable teachers. This is accomplished by the completion of a carefully designed plan of study tailored to the individual student's interests. The program begins with instruction in basic morphological, developmental, and functional aspects of human anatomy. Additional related course work and electives are required. These selected courses strengthen the area of interest of the student. The student then conducts an original research project which culminates in a dissertation (Ph.D.) or a thesis (M.S.).

Admission Requirements

In addition to the admission procedure of the University, the Department of Anatomy requests that each applicant complete a departmental application form obtained from the department. After an application is favorably reviewed by the departmental Graduate Committee, applicants are invited for a personal interview whenever practical. The applicant is admitted by a majority vote of the departmental faculty.

It is recommended that the following courses be completed before entering the graduate program: algebra, trigonometry, general physics, inorganic and organic chemistry, general biology or zoology, comparative anatomy, embryology, genetics, cell biology or general physiology, and two years of French, German, or Russian. At the discretion of the department, a student may be allowed to complete a limited number of prerequisites after enrolling in the program. A grade-point average above 3.0 is desirable. The aptitude portion and an advanced section of the Graduate Record Examination are generally required. Also, three letters of recommendation from persons who can best evaluate the applicant's potential for graduate study should either accompany the application or be mailed to the Department of Anatomy separately. Applicants desiring consideration for financial aid should complete the application process before January 15.

Doctor of Philosophy

The first year of study usually consists of required course work within the Department of Anatomy. These courses include gross anatomy, microanatomy, neurobiology, introduction to research, and seminar in anatomy. Required courses in other basic medical sciences, such as biochemistry and physiology, are usually taken in the second year. Twelve hours of additional graduate-level courses are also required. These requirements will have been satisfied when the student earns a grade of at

least B in each of the courses taken in the Department of Anatomy and has maintained a required 2.75 overall grade-point average.

To be admitted to candidacy for the Ph.D. degree the student must satisfy the above requirements, pass a written and oral comprehensive preliminary examination, and prepare a plan for a research project to be undertaken for the dissertation. To be recommended for the Ph.D. degree each student must complete a dissertation based on original research and defend the dissertation at an oral examination.

This program allows flexibility for each student. The precise plan of study is designed by the student and an Advisory Committee, which is composed of faculty members selected by the student.

The student often culminates the training period with presentations at regional and/or national scientific meetings. The Southern Society of Anatomists and the American Association of Anatomists are the most suitable meetings for this purpose.

Master of Science

The master's program in anatomy is offered as a terminal degree only for students in certain specialized fields, such as physical therapy or in a conjoint program in dentistry or medicine. It is not necessary for the student to complete the M.S. degree in order to qualify for admission into the Ph.D. program, although the student may elect to complete the requirements for this degree in progress toward the Ph.D.

An applicant who shows a special need for the M.S. degree must generally be as well qualified as applicants for the doctoral program. The M.S. student must complete courses in gross anatomy and microanatomy and 6 to 9 hours of required and elective courses. A 2.75 grade-point average must be maintained. In addition to course work, the student must complete a thesis based on original research and defend the thesis at an oral examination.

Research and Instruction

Research Areas—Gross Anatomy: Anatomical variations and anomalies, and electromyographic studies of specific muscle groups. Microscopic Anatomy: Studies of cells, tissues, and organs, under normal and experimental conditions with *in vivo* microscopic, histochemical, electron microscopic, autoradiographic, and fluorescent techniques. Developmental Anatomy: Experimental and descriptive embryology, cellular differentiation, and dedifferentiation, regeneration and the effects of drugs and other environmental agents on development. Neuroanatomy: Experimental, comparative, and embryological studies of specific nerve cell groups and nerve pathways in the spinal cord, brain stem, cerebellum, and cerebrum.

Anatomy (Anat.)

101. *Principles of Human Anatomy*. (For paramedical students only.) I. 3-4 hr. PR: Biol. 2 or equiv.; consent of instructor or chairperson. Lectures and demonstrations on the gross and microscopic anatomy of the human body including development.
102. *Gross Anatomy*. (For physical therapy students.) II. 3 hr. PR: Anat. 101 and/or consent of instructor or chairperson. Functional gross anatomy of the back, extremities, head, and neck.
103. *Microanatomy*. (For physical therapy students.) I. 2 hr. PR: Consent of instructor or chairperson. Introductory cell and tissue structure.
109. *Oral Histology*. (For dental hygiene students.) II. 3 hr. PR: Consent of instructor or chairperson. Histological structure and embryological development of the teeth, tissues, and organs of the oral cavity.

152. *Introduction to Physical Anthropology*. II. 3 hr. PR: Consent of instructor or chairperson. Man's physical heritage (human evolution) in principle and through paleontology, man's current physical nature (race and ecology), and biologic basis of man's culture. (Same as Sociology and Anthropology 152.)
301. *Gross and Developmental Anatomy: Trunk*. (For medical and a limited number of regular full-time graduate students in the medical basic sciences.) I. 5 hr. PR: Medical student standing or consent of chairperson. Gross anatomical study of the back, thorax, abdomen, pelvis, and perineum emphasizing clinically-related concepts.
302. *Gross and Developmental Anatomy: Head-Neck*. (For medical and a limited number of regular full-time graduate students in the medical basic sciences.) I. 3 hr. PR: Medical student standing or consent of chairperson. Gross anatomical study of the head and neck emphasizing clinically-related concepts.
304. *Gross and Developmental Anatomy: Extremities*. (For medical students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 2 hr. PR: Medical student standing or consent of chairperson. Gross anatomical and developmental study of the upper and lower limbs emphasizing clinically-related concepts.
305. *Microanatomy*. (For medical students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 5 hr. PR: Medical student standing or consent of chairperson. Cells, tissues, and organs.
306. *Gross Anatomy of the Trunk and Extremities*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 4 hr. PR: Dental student standing or consent of instructor or chairperson. Gross anatomical study of the back, upper extremities, thorax, abdomen, and pelvis.
307. *Gross Anatomy of the Head and Neck and Neuroanatomy*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 5 hr. PR: Dental student standing or consent of instructor or chairperson. Gross anatomical study of the head and neck and a brief gross and microscopic anatomical study of the central nervous system.
308. *Neuroanatomy*. (For students in physical therapy and a limited number of regular full-time graduate students in the medical basic sciences, and students in other health sciences.) II. 2 hr. PR: Consent of instructor or chairperson. Gross and microscopic structure of the central nervous system. (See also CC MD 375, Neurobiology.)
309. *Microanatomy and Organology*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 5 hr. PR: Dental student standing or consent of chairperson. Cells, tissues, and organs.
312. *Special Topics in Anatomy*. I, II. 2-4 hr. per sem. PR: Anat. 301 or 306; and Anat. 305 or 309; consent of chairperson. Different topics of current interest in anatomy that are not included in the regular graduate courses.
314. *Applied Anatomy*. I, II. 2-6 hr. per sem. PR: Consent of instructor or chairperson. Detailed study of anatomy adapted to the needs of the individual student.
315. *Craniofacial Osteology and Myology*. I. 3 hr. PR: Dental, medical, or graduate student standing or consent of instructor. Study of craniofacial embryology, morphology and physiology with special emphasis on articulations and their clinical applications.
316. *Craniofacial Growth and Maturation*. II. 3 hr. PR: Anat. 315 or consent of instructor. The current concepts of craniofacial growth and maturation are presented and integrated for application to clinical problems.
318. *Oral Histology and Embryology*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 2 hr. PR: Dental student standing or consent of instructor or chairperson. Structure, function, and development of oral tissues.

375. *Neurobiology*. (For medical and limited number of regular full-time graduate students in the medical basic sciences.) II. 6 hr. PR: Anat. 301 and Physi. 345, or consent. Anatomy and physiology of the nervous system correlated with clinical neurology.
401. *Advanced Gross Anatomy*. I, II. 2-6 hr. per sem. PR: Anat. 301, 302, 304, or 306, 307 and consent of instructor or chairperson. Morphological and functional analysis of a selected region, with dissection.
402. *Advanced Developmental Anatomy*. II. 2-4 hr. per sem. PR: Anat. 301, 302, 304, and consent of instructor or chairperson. Detailed developmental anatomy of the fetal period and infancy. With dissections and analysis of variations and malformations.
403. *Seminar*. I, II. 1-6 hr. (1 hr. per sem.) (Course may be repeated.) PR: Consent of Graduate Committee. Special topics of current or historical interest.
405. *Experimental Embryology*. II. (Alternate Years.) 3 hr. PR: Embryology and cellular physiology or biochemistry and consent of instructor or chairperson. Development, differentiation, and regeneration.
406. *Advanced Neuroanatomy*. I. 2-4 hr. per sem. (Course may be repeated.) PR: CC MD 375 and consent of instructor or chairperson. Detailed study of selected areas of the nervous system.
408. *Histochemistry*. II. (Alternate Years.) 3 hr. PR: Anat. 305 or 309, biochemistry, and consent of instructor or chairperson. Histochemical theory and techniques.
451. *Advanced Microanatomy*. I, II, or S. 2-4 hr. PR: Anat. 305 or 309, or Biol. 263 and consent of instructor or chairperson. An extension of the major topics included in Anat. 305 or 309. Special emphasis on recent contributions.
491. *Advanced Anatomy*. I, II. 2-8 hr. PR: Consent of chairperson.
497. *Research*. I, II, S. 1-15 hr. PR: Consent of Graduate Committee. (May be repeated as needed with consent of Graduate Committee.)

Biochemistry

Graduate programs in the Department of Biochemistry are designed to assist students in the development of their own capabilities for independent thought and research. All students are provided with a strong biochemistry background; however, the program has sufficient flexibility to allow individual students to select advanced specialty courses in biochemistry which are of particular importance to their career goals. Faculty research problems are of current interest and are diverse, reflecting the broad spectrum of areas encompassing biochemistry.

Admission Requirements

A prospective graduate student should hold a bachelor's degree with a science major and should have successfully completed courses in qualitative-quantitative chemical analysis, organic chemistry, calculus, physics, and physical chemistry. In some cases, a deficiency in the above may be made up after admission into the program.

Application is made by submission of the following items to the Department of Biochemistry: (a) the completed departmental application form (sent on request); (b) three letters of recommendation from professors who can evaluate the student's present abilities and potential; (c) official transcript of the applicant's college grades; and (d) official copy of Graduate Record Examination scores. Owing to the sequence of courses, entrance in the fall is preferred, but exceptions may be made as necessary. Application material and program details may be obtained by writing: The Graduate

Coordinator, Department of Biochemistry, School of Medicine, West Virginia University, P.O. Box 6302, Morgantown, WV 26506-6302. The deadline for receipt of applications and supporting documents by the department is June 1; to be considered for financial support, applications should be submitted much earlier, preferably by February 1.

Doctor of Philosophy

To assure that all students become familiar with the basic principles of biochemistry, the first year of the Ph.D. program is devoted primarily to course work. In addition to formal courses during the first semester, students participate in a laboratory program which involves all faculty members. This laboratory experience is designed to illustrate the basic research skills involved in biochemistry. During the second semester, students will undertake research in at least two laboratories of their choice. During the first two years, the students are also given monthly cumulative examinations, designed to assure the faculty that the students are developing a working knowledge of the field of biochemistry appropriate to a doctoral candidate. Students are required to pass sixteen cumulative examination questions during this period to fulfill the written examination requirement for the Ph.D.

Upon successful completion of the first year, students will choose a dissertation research adviser, at which time emphasis will be placed on research under the direction of the research adviser. During the second year, specialized courses in biochemistry will be offered as the students continue their research programs. During subsequent years, the students emphasize independent thesis research, and a few formal courses are taken.

An essential component of the Ph.D. program is participation in departmental journal clubs and seminars. Both students and faculty participate, thus students learn to effectively organize and present research material to a large group of people.

Completion of the Ph.D. program is realized when the student successfully presents the research results to both the Department of Biochemistry and a graduate advisory committee. Typically, four years are required to realize this goal.

Master of Science

The Department of Biochemistry offers the thesis master's degree. This program involves completion of a master's research project in addition to formal course work. The program for this degree is essentially identical to that for the Ph.D. program; however, only six cumulative examination questions must be passed, and thesis-level research completed.

Research and Instruction

Research Areas—Hormonal regulation of metabolism. Structure and function of nucleic acids. Chemistry of enzymes and serum proteins. Structure of connective tissue. Nutritional oncology. Secretory mechanisms. Biogenesis of membranes.

Biochemistry (Bioch.)

139. *Introduction to Biochemistry*. I. 4-5 hr. PR: General chemistry. (For medical technology and pharmacy students; others by consent.) Lecture and conference, 4 hr.; Laboratory, 1 hr.
192. *Selected Topics in Biochemical Research*. I, II, S. 1-6 hr. (May be repeated for a maximum of 12 hr.) PR: Consent.

231. *General Biochemistry*. I. 7 hr. PR: General chemistry, organic chemistry. (For medical students.) Consists of seven main lectures, one clinical correlation lecture and one problem session per week.
239. *Clinical Chemical Techniques*. II. 4 hr. PR: Bioch. 139, 231 or equiv. (Primarily for medical technology students; open to other qualified students by consent.)
305. *General Biochemistry*. II. 4 hr. PR: General chemistry, organic chemistry, and consent. (For dental and graduate students.) Lecture, conference, and demonstration.
- 310/312. *General Biochemistry*. (Offered in conjunction with the Department of Agricultural Biochemistry.) I, II. 4 hr. PR: General chemistry, organic chemistry. (For graduate students in basic science programs.)
399. *Special Topics*. I, II. 1-2 hr. PR: Consent.
423. *Immunochemistry*. II. 2 hr. PR: Consent. Chemistry and biochemistry of antibodies, antigens, and complement.
491. *Advanced Study*. I, II. 3 hr. PR: Consent. Physical techniques in biochemistry; nucleic acids; enzymology and protein chemistry; metabolic regulation (each topic—one semester). Designed primarily to provide a background for students who will do research in biochemistry and molecular biology. Emphasis will be on basic principles, concepts, and modern techniques useful for the solution of important biological research problems.
496. *Graduate Seminar*. I, II. 1 hr. PR: Consent. Presentation and discussion of special topics.
497. *Research*. I, II, S. 1-15 hr.

Conjoined Basic Sciences Courses

In the curricula of the School of Medicine, certain courses are conducted on nondepartmental or interdepartmental lines. These have been designed as Conjoined Courses.

Conjoined Basic Sciences Courses (CC MD)

320. *Electron Microscopy*. II. 2-4 hr. PR: Consent. For graduate students, upperclass students in the sciences, medical students.) Interdisciplinary. Introduction to cell fine structure and function. Preparation of biological specimens for electron microscopy.
350. *Radiation Safety and Isotope Usage*. II. 1-2 hr. PR: Phys. 1 and 2, Chem. 15 and 16 or consent. Chemical, physical, and biological aspects of radiation; safety; handling and storage of radioactive materials; ERDA (formerly AEC) and WVU regulations and licensing; detection and instrumentation, research, and clinical use of radioisotopes.
370. *Medical Genetics*. (For medical and a limited number of graduate students.) II. 2 hr. PR: Consent. Genetics, cytogenetics, and heritable diseases in man.
375. *Neurobiology*. (For medical and a limited number of regular full-time graduate students in the medical basic sciences.) II. 6 hr. PR: Anat. 301 and Physi. 345, or consent. Anatomy and physiology of the nervous system correlated with clinical neurology.
399. *Selective Experiences in Medicine*. (Fourth Year.) I, II, S. CR. PR: Satisfactory completion of the first three years of medical curriculum. (Graded as S or U.) The selective program for fourth-year medical students offers a wide range of opportunities in the basic sciences, medical specialties and subspecialties, and in family medicine. The year is composed of eleven 4-week blocks. Six must be spent at the WVU Medical Center in Morgantown and approved programs at the Charleston Division, WVU Medical Center; the Wheeling Division, School of Medicine; and the Veterans Administration Hospital, Clarksburg. The remainder may be spent at community hospitals in West Virginia, or at university or

university-affiliated hospitals out-of-state. Each student plans the individual program, with faculty advice. Flexibility is permitted. With consent of the instructors concerned, the student may, during the year, alter the selective choices. The student must give five weeks' notice before changing an intramural or extramural selection. (*See intramural and extramural folders, published annually, that describe the selective opportunities.*)

Microbiology

The Department of Microbiology offers programs of study leading to the degrees of Master of Science and Doctor of Philosophy in Medical Microbiology. Students are given extensive training in microbiological research methodology. The program aims towards training students capable of designing and carrying out their own research programs and teaching microbiology.

Admission Requirements

Applicants must have had at least four upper-level courses in the biological sciences, two semesters of organic chemistry, two semesters of physics, and a strong background in mathematics—including calculus—in order to be considered for admission. Applicants must submit to the Department of Microbiology a departmental application form, three letters of recommendation, and Graduate Record Examination (GRE) scores—both aptitude and advanced. In addition, transcripts and an official application for admission must be sent directly to the WVU Office of Admissions and Records, P.O. Box 6009, Morgantown, WV 26506-6009. Applicants for admission to a degree program should have a grade-point average of 3.0, or better, and a score of 600, or above, on each of the GRE examinations. Early application is encouraged. Applicants desiring financial aid should complete their application before January 1. All applications must be completed by June 1. Applications for admission in the spring semester must be completed by November 1.

Program Requirements

Every student must take courses or demonstrate proficiency by examination in each of the following areas: Microbiol. 310; 317-F; 491—Microbial Metabolism and Microbial Metabolism Laboratory. Two semesters of biochemistry are required. Seminar is a required course for all students each semester that they are in residence. All students in the Department of Microbiology are also required to participate in teaching at least one semester a year. The remaining courses are selected by the student and the advisory committee from courses in microbiology numbered M. Bio. 317 or higher, and from outside the department.

The Department of Microbiology also has informal noon-hour journal clubs in immunology, virology, and bacteriology and parasitology.

The Master of Science program requires 30 hours of course work, of which at least 20 hours must be in microbiology. Six hours must be in research. A thesis representing original research and a final oral examination are required. A grade-point average of at least 3.0 must be achieved. In general, two years are needed to complete the M.S. program.

The Doctor of Philosophy program requires a dissertation representing the results of an original research investigation, and passing of qualifying and final oral examinations. Appropriate course work with a grade-point average

of 3.0 is also required. Where appropriate, course work in related subjects such as computer science, physical chemistry, and statistics will be required. Three years are usually needed to complete the Ph.D. program.

For additional information, write to the Chairperson, Department of Microbiology, WVU Medical Center, P.O. Box 6302, Morgantown, WV 26506-6302.

Research and Instruction

Research Areas—Pathogenic Bacteriology: mode of action of microbial products in pathogenicity; identification and classification of anaerobic microorganisms including filamentous bacteria; oral microbiology; ecology of the oral cavity; clinical microbiology. Mycology: pathobiology of medical mycoses; environmental health implications of fungal and algal toxicoses. Physiology: nutrition and metabolism of a variety of pathogenic microorganisms; growth and protein synthesis in obligate intracellular bacteria. Genetics: basic studies on the mechanisms of genetics including transfer of genetic information; recombinant DNA studies. Virology: basic and molecular studies of polyoma virus replication; virus-induced antigens in transformed cells; pathogenesis of lymphocytic choriomeningitis virus; bacteriophage-host interactions. Parasitology: host-parasite relationships between helminth parasites and insects and vertebrate hosts; endosymbionts in protozoa. Electron Microscopy: cytological studies of the fine structure of microorganisms and the influence of environment on these structures. Immunology: studies on the mechanisms of antigen-antibody reactions and the development of hypersensitivity; immunopathology of pulmonary disease; mechanisms of cellular immunity. Other programs: detection of environmental pollutants; effect of environmental agents on host resistance.

Microbiology (M. Bio.)

26. *Microbiology*. (For students in the paramedical sciences.) I. 4 hr.
220. *Microbiology*. (For pharmacy students.) II. 4 hr. PR or Conc.: Biochemistry. Pathogenic microorganisms, including immunology and antimicrobial agents.
223. *Microbiology*. (For medical technology students; graduate students with consent.) II. 5 hr. PR or Conc.: Organic chemistry. Basic microbiology. Emphasis on immunology, pathogenic microorganisms, and clinical laboratory techniques.
224. *Parasitology*. (For medical technology students.) II. 4 hr. Study of animal parasites and disease vectors with emphasis on disease manifestations, parasite biology, and laboratory diagnosis.
301. *Microbiology*. (For medical students only.) I. 5-7 hr. Detailed study of pathogenic microorganisms. Emphasis on use of microbiology in solving clinical problems.
302. *Microbiology*. (For dental students only.) I. 5 hr. Detailed study of pathogenic microorganisms. Emphasis on oral flora.
310. *Structure and Activities of Microorganisms*. I. 2 hr. PR or Conc.: Biochemistry; consent. Structure and function of microbes.
317. *Special Problems in Microbiology*. I or II, S. 1-7 hr. per sem.
 - A. *Special Problems in Basic Immunology*. 2 hr. PR or Conc.: M. Bio. 310; biochemistry; consent.
 - B. *Special Problems in Basic Microbial Genetics*. 2 hr. PR or Conc.: M. Bio. 310; biochemistry; consent.
 - C. *Special Problems in Pathogenic Bacteriology*. 1 hr. PR or Conc.: M. Bio. 310; biochemistry; consent.

- D. *Special Problems in Medical Virology*. 1 hr. PR or Conc.: M. Bio. 310; biochemistry; consent.
- E. *Special Problems in Medical Mycology*. 1 hr. PR or Conc.: M. Bio. 310; biochemistry; consent.
- F. *Special Problems in Parasitology*. 1 hr. PR or Conc.: M. Bio. 310, 310; biochemistry; consent.
327. *Parasitology*. (For graduate students.) II. 4 hr. PR: Consent. Study of animal parasites and disease vectors with emphasis on disease manifestations, parasite biology, laboratory diagnosis, and current concepts in parasitological research.
490. *Teaching Practicum*. I and II. 1-3 hr. PR: Consent. Supervised practices in college teaching of microbiology. (Graded as S or U.)
491. *Advanced Study*.
- Pathogenic Virology*. I. 3 hr. PR: M. Bio. 310 and 317D or equiv., consent. Pathogenesis of medically important viruses and mechanisms for their control.
- Pathogenic Bacteriology*. II. 3 hr. PR: M. Bio. 310, 317C or equiv., consent. Pathogenic bacteriology, with an emphasis on the mechanisms of pathogenesis. Topics include microbial adherence, toxin production and mechanisms, and normal flora and disease. (Course will not be offered in 1984-85.)
- Clinical Laboratory Bacteriology*. I, II. 2-4 hr. PR: M. Bio. 310, 317C or equiv., consent. Lectures on the identification of pathogenic microorganisms with an emphasis on bacteria. Laboratory includes a rotation through the hospital clinical microbiology laboratory. Limited enrollment. (Graded as S or U.)
- Microbial Genetics*. I. 4 hr. PR: M. Bio. 310, 317B or equiv., consent. Molecular aspects of mutation, gene transfer mechanisms, genetic mapping, and genetic control using bacteria and bacteriophage systems as models. (Course will not be offered in 1984-85.)
- Microbial Metabolism*. I. 2 hr. PR: M. Bio. 310, biochemistry, consent. Physiology, metabolism, and regulation of representative microbial groups.
- Microbial Metabolism Laboratory*. I. 1 hr. Open to departmental graduate students only. Research techniques in metabolic regulation.
- Immunobiology*. II. 2 hr. PR: M. Bio. 317A or equiv., consent. Discussion of the biological and cellular aspects of immunology. Immunobiology, immunopathology, and cellular immunology receive strong emphasis. (This course is designed to complement Bioch. 423.) (Course will not be offered in 1984-85.)
- Medical Mycology*. I. 4 hr. PR: M. Bio. 317E or equiv. Advanced study of the fungi of medical importance, including the pathobiology of mycoses and toxicoses. (Course will not be offered in 1984-85.)
- Comparative Cytology*. II. 2-6 hr. PR: Consent. Projects in electron microscopy and cytochemistry. Instruction advanced techniques. Laboratory only.
- Cell and Molecular Biology of Eukaryotes*. II. 2-6 hr. PR: Bioch. 310 and 312 or equiv., consent. Interdepartmental team-taught course. Modular approach: (1) overview and cell growth; (2) membrane structure and function (3) tumor biology. In alternate years, the three modules offered are (1) above and (4) somatic cell genetics and chromosome structure; and (5) hormone action and gene expression.
- Tumor Virology*. II. 3 hr. PR: Biol. 315 or equiv., consent. A consideration of the molecular and biochemical aspects of viruses which cause tumors and the mechanisms by which they cause cellular transformation.
- Clinical Laboratory Virology*. S. 3 hr. per 6-week session. PR: 317D or equiv., consent. Lectures and laboratories on isolation of viruses from clinical specimens. Includes serological methods.
496. *Seminar*. I, II. 1 hr. PR: M. Bio. 310 or equiv. (Graded as S or U.)
497. *Research*. I, II, S. 1-15 hr. PR: M. Bio. 310 or equiv. Students may enroll more than once. (Graded as S or U.)

Pathology

Research Areas—Atherosclerosis; thrombosis; platelet aggregation and functions with correlative ultrastructural study, lipid and lipoprotein metabolism in cultured human endothelial cells; morphometric (including electron microscopic) and biochemical studies on the progression of atherosclerotic lesions in humans; regression of experimental atherosclerotic lesions; ultrastructural aspects of renal disease; ultrastructural reflections of dedifferentiation in neoplasia; histogenesis of neoplasia; biomedical application of laboratory medicine; and applied laboratory studies in microbiology.

Pathology (Path.)

128. *Introduction to Basic Pathology*. I. 2 hr. PR: Enrollment in dental hygiene or physical therapy, or consent. A study of the basic pathologic processes in man.
129. *Introduction to Oral Pathology*. II. 3 hr. PR: Path. 128, dental hygiene major, or consent. Application of fundamental knowledge of general pathology to pathological conditions that occur in the oral cavity.
328. *Basic Pathology*. (For dental students and graduate students, with consent.) II. 5 hr. PR: Anat. 309. General changes in basic pathologic processes and changes evoked in specific organ systems as a basis for understanding clinical disease.
338. *Oral Pathology 1*. II, S. 3 hr. PR: Path. 328, or consent. Clinical, radiographic, and microscopic discussion of local and systemic diseases affecting oral and paraoral structures.
350. *Hematology*. 3 hr. (For certain graduate students, with consent of the chairperson.) Includes morphologic description of formed elements of blood including classification of red blood cell, white blood cell, and platelet disorders. Case material and slide reviews are integral parts of the course work.
351. *Pathology and Laboratory Medicine 1*. (For medical students and limited number of regular full-time graduate students in medical basic sciences and consent of the chairperson.) I. 8 hr. PR: Medicine I Curriculum. Presents pathology as a body of knowledge and a discipline, including laboratory aspects of disease. General pathology, including cell injury, inflammation, neoplasia, thrombosis and circulatory disturbances, is followed by a systemic approach to disease states.
352. *Pathology and Laboratory Medicine 2*. (For medical students and limited number of regular full-time graduate students in medical basic sciences and consent of the chairperson.) II. 7 hr. PR: Path. 351. Continuation of Path. 351.
353. *Oral Pathology 2*. I. 2 hr. PR: Path. 338; consent. Continuation of Path. 338.
355. *Oral Disease Diagnosis and Management*. (For dental students, third year.) II. 1 hr. PR: Path. 338, 353, consent. Oral and systemic diseases are presented clinically, radiographically, and histologically. Diagnosis is established and treatment arrived at through group discussion.
356. *Advanced Pathology*. I, II. 3 hr. PR: Path. 328 or 354; consent. Microscopic and gross specimens from selected autopsies.
382. *Oral Histopathology*. I, II. 1-2 hr. PR: Path. 338, 353, consent. Microscopic study of head and neck lesions.
401. *Special Studies in Oral Pathology*. I, II. 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.
491. *Advanced Study*. 1-3 hr. PR: Consent. Specialized study in subspecialty and such as blood banking, clinical chemistry, immunopathology. (Special lectures and/or seminar.)
497. *Research*. I, II. 1-15 hr. PR: Consent.

Pharmacology and Toxicology

Pharmacology and Toxicology involve all aspects of the action of drugs on living systems and their constituent parts. These range from the chemical reactions taking place within cells to the evaluation of a drug in the treatment of human disease. The Department of Pharmacology and Toxicology offers graduate studies leading to the degrees of Master of Science and Doctor of Philosophy, with research concentrations in such areas as autonomic pharmacology, biochemical pharmacology, neuropharmacology, psychopharmacology, molecular pharmacology, cardiovascular pharmacology, endocrine pharmacology, pharmacogenetics, malarial chemotherapy, immunotoxicology and renal, hepatic, and pulmonary toxicology.

Admission Requirements

Regular applicants for the graduate program in pharmacology and toxicology should present as a minimum, the following undergraduate courses: one semester of biology; two semesters of physics; one semester of calculus; five semesters of chemistry including two semesters of organic chemistry and one semester of physical chemistry. Reading knowledge of at least one foreign language is strongly recommended. Three letters of recommendation from science professors, an official transcript, and the results of the Graduate Record Examination—including the advanced test in either chemistry or biology—are also required. The prospective student should have a minimum 3.0 overall grade-point average at the undergraduate level.

In general, students requesting financial support should have all credentials forwarded by February 1. For additional information write: Director of Graduate Studies, Department of Pharmacology and Toxicology, WVU Medical Center, P.O. Box 6302, Morgantown, WV 26506-6302.

Master of Science

Ordinarily the department does not accept graduate students solely into a master's program. However, the master's degree is offered and is available as an intermediate degree en route to the Ph.D. Its primary function, as viewed by the faculty, is as an aid to the student new to research for the formulation, conduct, and writing of an abbreviated, but complete, independent research project (thesis). The course work requirements for the M.S. in pharmacology and toxicology usually consist of Physiology 344 and 345, Biochemistry 231, Statistics 311, Pharmacology and Toxicology 361, 363, 364, 461, 462, and 497. Most students may, with the faculty's concurrence, choose to proceed directly with their doctoral research without a master's degree. These students must submit a comprehensive progress report on their research in lieu of a thesis.

Doctor of Philosophy

Before official admission to candidacy for the doctorate, the student must satisfactorily complete a grant writing exercise, an acceptable progress report, and an oral comprehensive qualifying examination. When a student has submitted a grant proposal, a committee—ordinarily consisting of at least three members of the Department of Pharmacology and Toxicology and two members from outside the department—is appointed and constitutes the oral examining body. The oral qualifying examination will be administered in January of the student's third year in the program.

Dissertation

Upon admission to candidacy for the degree of Doctor of Philosophy, the candidate must select a topic for the dissertation under the direction of the candidate's adviser, complete a dissertation that makes a contribution to knowledge in the candidate's area of concentration, and pass an oral examination based primarily upon the dissertation. After successful completion of the oral examination and submission of the final copy of the dissertation, the candidate will be recommended for the degree.

Research and Instruction

Research Areas — Autonomic pharmacology: Autonomic regulation of the cardiovascular system and of smooth muscle; sensitivity to autonomic drugs; electrophysiologic studies of cardiac and smooth muscle; synthesis, storage, release, and metabolism of transmitters and adrenal medullary hormones. Chemotherapy: Antimalarial agents, anticancer agents, effects of pharmacological agents on single cell organisms. Biochemical pharmacology: Drug metabolism, effects of drugs on lipid and nucleic acid metabolism. Endocrine pharmacology: Mechanism of action of steroids, metabolism of sex accessory tissues, relationship of hormones to tumor growth and development. Neuropharmacology: Biochemical basis of epilepsy, mechanism of action of anticonvulsant drugs, neuromediators in the central nervous system. Toxicology: Metabolism of toxic agents, pulmonary toxicology, renal toxicology, immunotoxicology, and environmental toxicology, perinatal pharmacology and toxicology. Electron microscopy: Effects of drugs on the ultrastructure of cells.

Pharmacology and Toxicology (Pcol.)

160. *Pharmacology*. (For undergraduate students in the paramedical sciences.) II. 3 hr. Interactions of clinically useful therapeutic agents with the mammalian system.
243. *Pharmacology for Pharmacy Students*. I. 4 hr. PR: Completion of first year in Pharmacy; approval of course director. Principles, pharmacodynamic actions, and therapeutic applications of clinically useful drugs.
360. *Pharmacology and Therapeutics*. (For dental and graduate students.) I. 4 hr. PR: Dental student standing or consent. Lecture and demonstrations on pharmacological actions and therapeutic uses of drugs.
361. *Pharmacology*. (For medical students and a limited number of regular, full-time graduate students in medical basic sciences departments.) II. 6 hr. PR: Consent of department chairperson. Lecture-conference-laboratory on principles, pharmacodynamic actions, and therapeutic applications of clinically useful drugs.
362. *Occupational Toxicology*. II. 3 hr. PR: Consent. General principles of toxicology with special emphasis on occupational health. Classes of chemicals which pose problems in the work place will be emphasized.
363. *Toxicology*. II. 3 hr. PR: Consent. Theoretical concepts and general principles of toxicology with special emphasis on biochemical and molecular mechanisms of chemical toxicity.
364. *Advanced Pharmacology*. I. 1-4 hr. PR: Pcol. 361 or consent. Advanced lectures and discussion of general principles of pharmacology and toxicology including physiochemical properties, absorption, distribution and metabolism of drugs, drug receptor theory, and molecular mechanisms of toxicity. (Offered every third year.) (Course will be offered in 1986-87.)
365. *Advanced Pharmacology*. I. 1-4 hr. PR: Pcol. 361 or consent. Advanced lectures and discussion of specialized areas of pharmacology and toxicology including renal, endocrine, pulmonary, and cardiovascular pharmacology. (Offered every third year.)

367. *Advanced Neuropharmacology*. I. 1-4 hr. PR: Pcol. 361 or consent. Advanced lectures on the actions of drugs on the central and peripheral nervous system. (Offered every third year.) (Course will be offered in 1985-86.)
461. *Seminar in Pharmacology*. I, II. 1 hr. per sem. PR: Pcol. 361 or graduate status in basic medical sciences.
462. *Literature Survey*. I, II. 1 hr. per sem. PR: Graduate status in pharmacology and toxicology. Current literature pertinent to pharmacology and toxicology including journals of allied biological sciences.
490. *Teaching Practicum*. I, II. 1-2 hr. per sem. PR: Pcol. 361 and consent. Critical evaluation of preparation and delivery of lectures in specified areas of pharmacology and toxicology. (For advanced graduate students.)
497. *Research*. I, II, S. 1-15 hr. per sem.

Physiology

The objective of the Department of Physiology graduate program is to educate physiologists in the methods of conducting independent research of high quality and of effective teaching. The department's graduates are conversant with all aspects of physiology and are prepared to interact creatively with scientists in related fields. To this end the program leading to the degree of Doctor of Philosophy (Ph.D.) emphasizes close interaction of faculty with students and a high faculty/student ratio. The Master of Science (M.S.) program includes 24 hours of course work and a research project leading to the thesis.

Admission Requirements

Individuals from a wide variety of backgrounds study physiology as one of the basic medical sciences. It is, in fact, not uncommon to find physiologists with such diverse backgrounds as biology, chemistry, physics, psychology, engineering, and mathematics. The department encourages the participation of qualified individuals from many undergraduate and graduate disciplines. There are, however, certain prerequisite courses a student must take either before enrollment or during the first year of the program. These prerequisites, designed to give a student the proper foundation for advanced study in physiology, are: Biology (2 semesters), Physics (2 semesters, calculus-based desirable), Calculus (2 semesters, 3 desirable), and Organic Chemistry (1 semester). Physical Chemistry is not required, but is desirable.

The department requires the following materials for consideration for the M.S. or Ph.D. program: Three letters of recommendation, transcripts of all undergraduate and graduate grades, a completed departmental application form, and Graduate Record Examination scores (aptitude and one advanced test). A bachelor's degree or equivalent is required for admission; an M.S. degree is not a prerequisite for the Ph.D. program.

A complete application kit and detailed descriptions of the degree programs may be obtained by writing to the Graduate Adviser, Department of Physiology, West Virginia University School of Medicine, P.O. Box 6302, Morgantown, WV 26506-6302. Although applications may be submitted as late as June of the year of matriculation, applications must be received before February 1 to be considered for financial aid.

Doctor of Philosophy

The first year in the program normally includes the following courses: Graduate Physiology (12 hours), Biochemistry (7 hours), Statistics (3 hours),

Neurophysiology (3 hours) or Neurobiology (6 hours), Graduate Colloquium (2 hours), Physiological Methods (variable credit), electives, and prerequisites (a limited number of which may be made up during the first year). The first-year curriculum familiarizes the student with some of the same basic sciences material presented to the medical students. Graduate (medical) physiology, biochemistry, and neurophysiology/neurobiology are part of the medical curriculum. The courses are team-taught by scientists specializing in each of the areas covered. In addition, the student is introduced to the full range of activities in the department through the Graduate Colloquium. Physiological Methods provides a foundation in the research strategies, techniques, and tools used by physiologists.

During the first summer, students may begin research projects in departmental research laboratories of their choice. They also may take elective courses or make up prerequisites.

During the second year, the student combines course work with the continuing development of research interests. A graduate adviser is selected during this year. Courses normally include: Advanced Physiology (12 hours), Graduate Colloquium (2 hours), Seminar (2 hours), and the Teaching Practicum (assisting in laboratory/demonstrations, conducting small-group conference sessions, giving lectures). Commonly chosen electives include pharmacology and toxicology, and advanced or specialized topics in biochemistry. The second-year curriculum takes the student beyond the medical curriculum, emphasizing critical appraisal of the current research literature. Students begin to present discussions of research topics in the Graduate Colloquium and Seminar.

After completion of the second academic year, the student takes a qualifying examination consisting of a written comprehensive part and both a written and oral research design part. Upon successful completion of the qualifying examination, the student is admitted to candidacy for the degree of Doctor of Philosophy in Physiology.

During the third and fourth years, the student may enroll in elective courses. Yearly participation in the Teaching Practicum provides experience in delivering lectures to undergraduate and professional students. However, the student's major effort is directed toward dissertation research, with presentations about the research in the Graduate Colloquium. During these years the students will attend and present papers at national meetings of scientific societies (American Physiological Society, Biophysical Society, Endocrine Society, Federation of American Societies for Experimental Biology, Society for Neurosciences.) The Ph.D. program is generally completed in four years.

Master of Science

Prerequisites for admission to the master's program are the same as those for the doctoral program. The first academic year and first summer are likewise identical for the master's and doctoral students. During the second year of the master's program, the student enrolls for 6 hours of Advanced Physiology, Graduate Colloquium, and sufficient electives to fulfill the required 24 hours of course work. In addition, 6 hours of research are directed toward completion of the thesis. The M.S. program is usually completed in two years.

Research and Instruction

Research Areas—Faculty laboratories offer opportunities for research in cardiovascular, cell, endocrine, gastrointestinal, muscle, neural, renal, and respiratory physiology.

Physiology (Physi.)

141. *Elementary Physiology*. (For undergraduate students in paramedical sciences.) II. 4 hr. PR: College biology and chemistry, or consent. Systematic presentation of basic concepts. 3 lec., 1 lab.
241. *Mechanisms of Body Function*. I. 4 hr. PR: College chemistry, biology, physics, and algebra or graduate status and approval. A systematic examination of the homeostatic functions of the human body with emphasis on the physicochemical mechanisms involved. Pathophysiology and clinical correlations are introduced in relations to normal physiology.
248. *Experimental Design*. (For advanced undergraduate and selected graduate students.) II. 3 hr. PR: Consent. Theory and practical experience in design of experiments and processing of physiological data using small laboratory digital computers. 1 lec., 2 lab.
341. *Physiological Methods 1*. II. 1-5 hr. PR: Consent. Research techniques and strategies for physiology. (*Designed to be taken in conjunction with Physi. 345.*)
342. *Physiological Methods 2*. I. 1-4 hr. PR: Consent. Research techniques and strategies for physiology. (*Designed to be taken in conjunction with Physi. 344.*)
343. *Fundamentals of Physiology*. (For dental students and a limited number of regular full-time graduate students in medical center basic sciences departments.) I. 5 hr. PR: College physics, algebra, chemistry, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems and their control. 3 lec., 1 conf., 1 lab.
344. *Medical Physiology 1*. (For medical and a limited number of regular full-time graduate students in medical center basic sciences departments.) I. 5 hr. PR: College physics, algebra, chemistry, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems, and their control, with clinical correlations. 5 lec., 1 conf.-lab.
345. *Medical Physiology 2*. (For medical and a limited number of regular full-time graduate students in medical center basic sciences departments.) II. 5 hr. PR: Physi. 344 and consent of department chairperson. Continuation of Physi. 344. 5 lec., 1 conf.-lab.
346. *Neurophysiology*. (For graduate students in medical center basic sciences departments and a limited number of regular full-time graduate students.) II. 1-4 hr. PR: Math. 3 or 141, Phys. 1 and 2 or consent of department chairperson. Properties of excitable tissues (nerve and muscle), synaptic transmission, reflexes and central nervous system function, and behavior. 1-3 lec., 1 conf.
350. *Graduate Physiology 1*. (For graduate students in the medical center basic sciences departments and a limited number of other regular full-time graduate students.) I. 6 hr. PR: Calculus, college physics, organic chemistry, biology, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems, and their control.
351. *Graduate Physiology 2*. (For graduate students in the medical center basic sciences departments and a limited number of other regular full-time graduate students.) II. 6 hr. PR: Physi. 344 or 350, and consent of department chairperson. Continuation of Physi. 350.
399. *Special Topics*. I, II, S. 1-4 hr. PR: Consent. Assigned study designed to develop research skills.
444. *Graduate Seminar*. I, II. 2 hr. PR: Graduate standing and consent. (*Graded as S or U.*)

490. *Teaching Practicum*. I, II. 1-3 hr. PR: Consent. Supervised practices in college teaching of physiology. (Graded as S or U.)
491. *Advanced Physiology*. I, II, S. 1-15 hr. PR: Consent. Lecture-conference in: cellular physiology, neurophysiology, circulation, respiration, acid-base and renal physiology, digestion and energy metabolism, and endocrinology. 3 lec., 3 conf.
497. *Research in Physiology*. I, II, S. 1-15 hr.
498. *Thesis*. I, II, S. 2-4 hr. PR: Consent. (Graded as S or U.)
499. *Graduate Colloquium*. I, II. 1-6 hr. PR: Consent. (Graded as S or U.)

School of Dentistry

The School of Dentistry was established by an act of the West Virginia Legislature on March 9, 1951, and the first class began studies in September, 1957. The 23 members of that class were graduated in 1961, receiving the first dental degrees awarded in West Virginia. More than 200 students are now enrolled in the accredited dental program. In September, 1961, the first students were enrolled in the school's degree program in dental hygiene and were graduated in 1965.

The profession of dentistry offers many career opportunities. In addition to the general practice of dentistry, specialty practice areas may be pursued by further study. The fields of dental education and research provide the opportunity for satisfying and interesting careers. Dental auxiliary careers such as dental hygiene may be pursued. Men and women entering the dental health care delivery system find that they play an important role in the exciting and challenging world of the modern health sciences.

The School of Dentistry of West Virginia University offers programs of education leading to the degrees of Doctor of Dental Surgery, Master of Science with majors in Endodontics and Orthodontics, and Bachelor of Science in Dental Hygiene. One oral surgery internship and three oral surgery residencies are offered by the Department of Oral Surgery. Programs leading to the Master of Science and Doctor of Philosophy degrees are available in the associated basic sciences. Seven general practice residencies are offered by the School of Dentistry, University Hospital, and the Charleston Area Medical Center. Continuing education courses for dentists and auxiliaries are offered throughout the year on a wide variety of dental topics.

Administration of the School of Dentistry is the responsibility of the Dean. He is aided in this function by four associate deans and the clinical and medical center basic sciences chairpersons. This administrative group, the Faculty Council, serves in an advisory capacity to the Dean in carrying out the established policies of the School of Dentistry and of the University.

Doctor of Dental Surgery Program (D.D.S.)

The School of Dentistry offers a program of education leading to the degree of Doctor of Dental Surgery (D.D.S.). The requirements for admission and the curriculum conform to the standards established by the American Dental Association Commission on Dental Accreditation.

Admission

Application for admission in the Fall of 1985 should be made promptly upon completion of the 1983-84 school year, even if the applicant has not completed all the requirements as listed.

The School of Dentistry participates in the American Association of Dental Schools Application Service (AADSAS). All applications are processed by that organization. Application request cards are available at the Office of Admissions and Records, 1170 Basic Sciences Building, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301. Request cards should be submitted to AADSAS as promptly as possible. The deadline for submission of a completed AADSAS application to the AADSAS office, for admission to the West Virginia University School of Dentistry in the Fall of 1985, is November 1, 1984. This deadline is deliberately and explicitly discussed in the AADSAS instruction booklet and thus should be reviewed

carefully by the applicant. Since deadline dates are so important, you are strongly urged to give this part of the application procedure your strict attention.

Because of the large number of applicants and limited openings available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Nonresident applicants should have a grade-point average of 3.0 or above and an average score on the Academic and PMAT sections of the Dental Admission Test of at least 4-4. Economically or culturally disadvantaged students (especially if they are West Virginia residents) are encouraged to apply.

Each applicant is required to satisfactorily complete the Dental Admission Test. It is suggested that the test be taken in April, before making application in June, for admission in the fall. This test is given at testing centers throughout the United States and its possessions, and in Canada. Application cards may be secured by writing to: Division of Testing, Council on Dental Education, 211 E. Chicago Ave., Chicago, IL 60611.

Applicants for admission must present evidence of having successfully completed three or more academic years of work in liberal arts in an accredited college. The prerequisite courses should include:

Sem. Hr.

English Composition and Rhetoric, or equivalent	6
Zoology or Biology (with laboratory).....	8
Inorganic Chemistry (with laboratory)	8
Organic Chemistry (with laboratory).....	8
Physics (with laboratory)	8

Courses in comparative anatomy, embryology, and biochemistry are strongly recommended. In addition, courses in the humanities and the social sciences are suggested in order to acquire a broadened intellectual background for both the study and practice of dentistry.

All applications are reviewed and those most qualified are invited to appear for a personal interview. The Committee on Admissions will advise the applicants of the time and place of the interview.

Admission to the WVU School of Dentistry is contingent upon satisfactory completion of all admission requirements as stated above, appropriate completion of all application instructions, submission of all transcripts from each college attended, personal interview, and satisfactory completion of all courses taken before the time of registration in dental school (includes courses taken during the summer session immediately preceding admission enrollment).

Final acceptance of a student is contingent upon satisfactory completion of all requirements.

Promotion

At the end of each grading period (i.e., each academic semester or session) all students will have their individual progress reviewed by the academic standards committee convened for their class. The progress of each student in the curriculum is governed by a set of minimum acceptable performance standards upon which the academic standards committee bases its decisions.

The standards consist of three categories: (1) scholastic performance; (2) clinic utilization; and (3) professional development. Scholastic performance requires that each student must earn a specified grade-point average to be promoted to the succeeding year. Clinic utilization requires that each student

must utilize a specified competency. Professional development is an important component of the study of dentistry. The criteria for determining this development are based on the student's personal behavior and patient management.

These performance standards are explained in detail in the "Curriculum and Academic Standards Statement for the WVU School of Dentistry." All first-year students are presented this statement prior to entering school and are required to acknowledge by their signature that they have read and accepted the conditions set by the material contained therein.

At the completion of each academic term, following the Committee on Academic Standards meetings, the status of each student is reported to the Dean and Faculty Council. The committee may recommend that a student be promoted unconditionally, be promoted on probation, be allowed to make up deficiencies, be given the opportunity to repeat the year, be suspended or dismissed from further studies in the School of Dentistry. Final disposition in each case is the prerogative of the appropriate Committee on Academic Standards and the Dean.

Requirements for the Degree (D.D.S.)

Candidates for graduation are recommended by the faculty of the School of Dentistry to the Board of Regents for its approval and for the conferring of the degree of Doctor of Dental Surgery (D.D.S.), provided they fully meet the following conditions:

1. Shall have been in regular attendance in the School of Dentistry for the academic period prescribed for each student.
2. Shall have completed the prescribed curriculum for each of the academic sessions.
3. Shall have shown good moral character and shall have demonstrated a sense of professional responsibility in the performance of all assignments as a student.
4. Shall have met in full all financial obligations to the University.

In view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of the University the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

Attendance at the spring Commencement is voluntary. If you don't plan to attend, leave the complete mailing address to where you want your diploma mailed at the Dean's Office.

Curriculum

The School of Dentistry recognizes its obligation to produce professionals capable of meeting the dental health needs of society and providing leadership for the dental profession. Therefore, the school offers a four-year program leading to the degree of Doctor of Dental Surgery (D.D.S.) that provides students with a learning environment in which to develop the technical competence, intellectual capacity, and professional responsibility necessary to meet the dental health needs of a society in a state of constant transformation. In order to insure the achievement of these goals, the dental curriculum is continually reviewed and revised.

The basic required courses in the curriculum are presented throughout the first six semesters and two eight-week summer sessions. During this time

SCHOOL OF DENTISTRY CURRICULUM PLAN

	First Year (1,200 hr.)	Summer Session (320 hr.)	Second Year (1,200 hr.)	Summer Session (320 hr.)	Third Year (1,200 hr.)	Summer Session (320 hr.)	Fourth Year (1,200 hr.)
				Basic Dental Science	Basic Biologic Science	Bio-Clin. Sci. Comm. Dent.	
100		Basic Dental Science	Basic Biologic Science	Bio-Clinical Sciences			
				Comm.Dent.			
200	Basic Biologic Science			Clinical Dentistry	Bio-Clinical Sciences	Clinical Dentistry	
		Bio-Clinical Sciences					
300		Clinical Dentistry	Basic Dental Science	Unsched.		Unscheduled Time	Electives and Clinical Dentistry
		Unsched.					
400					Comm. Dent.		
500							
600			Bio-Clinical Sciences				
700	Basic Dental Science				Clinical Dentistry		
800							
900	Bio-Clinical Sciences		Comm. Dent.				
	Comm. Dent.		Clinical Dentistry				
1,000	Clinical Dentistry						Unscheduled Time
1,100	Unscheduled Time		Unscheduled Time		Unscheduled Time		
1,200							

all students are enrolled in courses designed primarily to prepare them for the general practice of dentistry. Throughout the program overall student progress is continually monitored by the Committee on Academic Standards. Upon satisfactory completion of the first semester of the third year, the student is provided the opportunity to indicate a specific interest in a fourth-year curriculum track. Available tracks are the general practice track, basic biologic science track, and specific clinical interest track. Upon satisfactory completion of the second semester of the third year, the faculty adviser and the student prepare a specific individualized curriculum for the fourth year. This aspect of the dental curriculum provides the opportunity for the student to pursue areas of special interest through the appropriate track, while continuing to develop competency in all clinical disciplines. Fourth-year students are required to register for at least 3 hours of electives during each semester enrolled, and must register for those clinical courses requiring added clinical experience to attain competency.

At the present time, a number of state boards of dentistry require evidence of participation in continuing education for license renewal. In addition, a significant number of state associations require similar evidence for continued membership in good standing. Consequently, fourth-year electives provide the opportunity for students to pursue areas of special interest and, at the same time, they serve as a means of encouraging students to continue their education throughout their professional careers.

The individualized curriculum developed by the student and faculty adviser must be approved by the Curriculum Committee Chairperson and the Associate Dean for Academic Affairs. The student will pursue the approved curriculum through completion of the D.D.S. program.

Additional requirements include participation in mock board examinations by fourth-year students and six weeks of remote-site training by all students. Furthermore, students must satisfactorily complete all courses that are attempted.

Outstanding students, having accumulated grade-point averages of 3.0 or above, having developed competency in all clinical disciplines, and having met all other requirements, are eligible for consideration for graduation at the end of the third eight-week summer session.

Dental Clinic

Clinical training and experience constitute a major part of the curriculum for dental and dental hygiene students. Facilities for dental and dental hygiene students include 160 treatment cubicles and all necessary related laboratories. Patients are accepted for treatment if their dental problems are of teaching value and if a student is available for assignment. The student assigned to each patient must work under close supervision of a faculty member. The clinic program provides practical experience for the student and renders a much needed service to several thousand patients annually.

Books and Instruments

Dental students are required to obtain necessary textbooks for the scheduled courses and special instruments for use in the various laboratories and clinics. Lists of approved instruments and books will be provided at the time of registration, and these supplies will be made available through University services. Official authorization is essential in the purchase of all instruments and books used in dental courses. All dental students must maintain a library of required textbooks through graduation. Used books, instruments, and equipment are not acceptable.

Organizations

American Student Dental Association. Predoctoral and advanced education dental students are eligible to become members of the American Student Dental Association. Membership provides for student membership in the American Dental Association.

American Association of Dental Schools. All dental and auxiliary students, including advanced education students, are eligible to become student members of the American Association of Dental Schools during the period of enrollment in the School of Dentistry.

WVU School of Dentistry Alumni Association. In a series of meetings held during May, 1961, the first senior class of the School of Dentistry established the WVU School of Dentistry Alumni Association. The association promotes the educational program of the School of dentistry. Full membership is extended to all graduates of the school, and associate memberships are available to others interested in the aims of the association.

Omicron Kappa Upsilon. On February 6, 1961, the Alpha Beta Chapter of the Omicron Kappa Upsilon, national honorary dental society, was chartered at the School of Dentistry. Student membership is limited to 12 percent of each senior class. Candidates are selected from the academically superior 20 percent.

Dental Fraternities. Chapters of three national dental fraternities were organized and established in 1962. First formal initiation ceremonies were conducted on February 9, 1962, by Beta Theta Chapter of Xi Psi Phi and Chi Chi Chapter of Delta Sigma Delta, and on February 10, 1962, by Sigma Chapter of Psi Omega. Membership in each fraternity is limited by an established class quota. Individual eligibility is based upon an accumulated 2.0 average.

Courses of Instruction in Dentistry (Dent.)

Each course is designated by the name of the department teaching it, its number and title, the semester in which it is offered, and hours of credit. Generally, those courses given in the first year are numbered 300-324; second year, 325-349; third year, 350-374; and fourth year, 375-399. Elective opportunities are offered to students during the fourth year of study. (See courses 394 and 397.) Other University courses may be taken with the approval of the student's adviser and the Assistant Dean for Instruction.

Community Dentistry

Professor McCutcheon (*Chairperson*) and Thompson; Adjunct Associate Professor Murphy; Associate Professors Ingersoll, Jagannathan, Meckstroth, and Wilson; Assistant Professors Dahlquist and Dice; Visiting Educational Specialist Hutton; Clinical Instructors Broughton, Frum, Kuhn, Shelton, and N. Taylor.

- 320. *Community Dentistry.* II. 1 hr. Fundamentals of statistical analysis and the scientific method necessary to the understanding of dental research.
- 326. *Community Dentistry.* II. 2 hr. A course covering the principles of human behavior and their application to understanding patient problems, patient management, and dentist-patient communication.
- 330. *Community Dentistry.* I. 1 hr. Lectures and field experience provide the student with the basic knowledge of the principles of dental public health practice. Emphasis on dental epidemiology and preventive dentistry at the community level.
- 332. *Community Dentistry.* II. 1 hr. A course providing lectures in the advanced theory and practice of preventive dentistry with emphasis on nutrition and microbiology.

352. *Community Dentistry*. Yr. 2 hr. Seminars, proseminars, and field experience in selected topics of professional communication, health education, and the sociology and psychology of community health.
354. *Community Dentistry*. II. 1 hr. PR: Departmental consent. Lectures covering the origin and development of dentistry.
394. *Community Dentistry*. I, II. 1-15 hr. Continued field experience in various aspects of community health.

Dental Anatomy and Occlusion

Associate Professors Foor and VandenBosche; Assistant Professors Lopez and Rodeffer.

310. *Dental Anatomy and Occlusion*. Yr. 6 hr. Anatomy of individual teeth, both permanent and primary, in regard to form and function and their static and dynamic occlusal relationships.
331. *Occlusion*. S. 2 hr. PR: Consent. Didactic and clinic/laboratory instruction in the basic techniques and procedures associated with the treatment of conditions related to faulty occlusion.
351. *Occlusion*. II. 1 hr. PR: Consent. Advanced study of the science of occlusion with particular attention to its impact on the clinical diagnosis and treatment of occlusal disorders.

Dental Materials

Professors Overberger and Gaver; Associate Professors Hart and Weaver; Assistant Professor Roth.

312. *Dental Materials*. I. 3 hr. Composition, physical, chemical, mechanical, and manipulative properties, and technical uses of dental restorative materials as related to dentistry.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Dental Practice Management

Professors Puderbaugh (*Chairperson*), Thomas, and Cady; Associate Professors Hickman and Walker; Assistant Professor Lopez.

325. *Practice Management*. I. 1 hr. A lecture course designed to prepare dental students in the concepts of four-handed dentistry.
371. *Practice Management*. I. 2 hr. PR: Dent. 325. A lecture series on the fundamentals of practice management, including the organization and development of the practice, personnel and financial management, and the introduction to TEAM dentistry.
372. *Practice Management*. II. 1 hr. (Ethics.) Lectures and discussion on the principles of ethics applied to dental practice.
373. *Practice Management*. II. 1 hr. (Jurisprudence.) Lectures on the fundamental legal rights, obligations, and responsibilities of the dentist.
375. *Practice Management*. Yr. and S. 1-3 hr. PR: Consent. Clinical practice using auxiliaries, including those trained in expanded functions.

Endodontics

Professors Alberico, Biddington, Griffin, and Skidmore (*Chairperson*); Associate Professors Balaban and Christian; Assistant Professors Baur and Stewart; Instructor D. Taylor.

321. *Endodontics*. S. 2 hr. Preclinical lectures and laboratory exercises on basic technical and biological requisites in the treatment of diseases of the dental pulp and the periapical tissues.
362. *Endodontics*. I. 1 hr. Lectures on rationale, diagnosis, prevention, and nonsurgical and surgical treatment of diseases of the dental pulp and their sequelae.
380. *Endodontics*. Yr. and S. 1-4 hr. Clinical endodontic instruction in order to develop the skills and judgment necessary to treat diseases of the dental pulp and their sequelae.
390. *Clinical Endodontics*. I, II, S. 1-5 hr. (May be repeated for credit.) PR: Graduate of an accredited dental school and admission to the Advanced Education Program in Endodontics or consent. Clinical endodontic practice in the areas of: ordinary endodontic cases, complex endodontic cases, hemisection, root amputation, replantation, transplantation, endodontic implantation, vital pulp therapy, apexification, and bleaching.
391. *Endodontic Theory*. I, II, S. 2 hr. PR: Consent. Provides seminar discussions in the topics of: basic endodontic techniques, advanced endodontic techniques, endodontic literature review, case presentation, and advanced endodontic theory.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Hospital Dentistry

Professor Welch (*Chairperson*); Associate Professors Bakos and Cogan; Assistant Professors Montgomery and Pike; Instructors Black, Brace, Coffman, Courtney, Fagan, Farris, Haddox, Hancock, Jackfert, Klein, Lee, Payne, Salzer, Skaff, Snyder, Wilbourn, and Wine.

333. *Physical Diagnosis*. II. 1 hr. Lectures and demonstrations procedures involved in performing a physical examination and in understanding the hospital medical chart from the standpoint of history, physical examination, laboratory, and x-ray examination data.
347. *Management of Medical/Dental Emergencies*. II. 1 hr. Assessment and treatment of the medical risk patient as related to the practice of dentistry. CPR instruction included.
349. *Hospital Dentistry*. S. 1 hr. Hospital protocol and hospital dentistry as related to various dental disciplines. Students will be assigned a one-week hospital rotation where they are involved in care of the hospitalized dental patient.
374. *Principles of Medicine*. I. 2 hr. General diseases about which the dental student should have intelligent working knowledge. Students are assigned to specific hospitalized patients to review their findings with the class.
395. *Hospital Dentistry Practicum*. I, II, S. 1-15 hr. Hospital experience (remote site) in the various aspects of care of the hospitalized dental patient. Provides continuation of experiences gained in Dent. 349.

Operative Dentistry

Professors Sausen (*Chairperson*) and Gaver; Associate Professors Chapman, Foor, Frye, Gladwin, Hart, Jackson, VandenBosche, and Weaver; Assistant Professors Kelly, Naylor, Rodeffer, and Utt; Instructor Bennett.

304. *Operative Dentistry*. II. 4 hr. Preclinical course in principles of cavity preparation, manipulation of plastic restorative materials, and related instrumentation. Gold inlay technique introduced. Characteristics and treatment of caries emphasized.
322. *Operative Dentistry*. S. 2 hr. Preclinical course to include a variety of cavity forms and their restoration with compacted golds. Preparation is made for entering clinical activity. Certain fundamentals of pedodontics introduced.

329. *Operative Dentistry*. I. 2 hr. Initiation of clinical practice with comprehensive examinations and treatment planning of assigned patients. Lectures relate to standard clinical procedures and to laboratory instruction in direct and indirect cast gold restorations.
348. *Operative Dentistry*. S. 1 hr. Cavity medications, biological reactions to restorative materials and techniques, bur technology, and clinical variations of cavity form and treatment. Treatment planning procedure is reviewed and examined.
358. *Operative Dentistry*. II. 1 hr. More complex and advanced techniques for clinical practice with emphasis on new developments throughout the scope of operative dentistry.
383. *Operative Dentistry*. Yr. and S. 2-8 hr. Instruction in the clinic setting includes comprehensive diagnosis and treatment planning, computer assisted records, plaque control, caries control, and single tooth restorations. Sufficient variety and depth of experience occurs to obtain competence for independent practice of operative dentistry.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Oral Diagnosis and Radiology

Professors Graham (*Chairperson*) and Thomas; Associate Professors Bowers, Pifer, and H. Smith; Assistant Professor Fotos.

303. *Oral Diagnostic Techniques*. II. 2 hr. Lectures and laboratory exercises introduce and stress fundamental principles of oral diagnosis including patient health history and clinical examination methods. Intraoral radiography. General approach to treatment planning for comprehensive health care.
323. *Clinic Orientation*. S. 1 hr. Series of specially arranged lectures, demonstrations, and clinical exercises to orient student to clinical procedures in the clinical disciplines.
327. *Oral Radiology*. I. 1 hr. The physical and biological phenomena associated with x-radiation. Intraoral and extraoral techniques presented and instruction in interpretation of roentgenograms, with special emphasis relative to oral diagnosis.
337. *Oral Diagnosis*. II. 1 hr. Didactic instruction with further application of diagnosis procedures presented in Dent. 303, extended to include special examination procedures and technics applicable to evaluating clinical problems.
387. *Clinical Oral Diagnosis*. Yr. and S. 1-3 hr. PR: Consent. Clinical application of principles presented in Dent. 303 and 337, providing opportunities for observation and analysis of clinical problems.
396. *Clinical Oral Radiology*. Yr. and S. 1-3 hr. Clinical application of principles presented in Dent. 303 and 327 with additional instruction in techniques and interpretation of radiographs with special emphasis to role played in oral diagnosis.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Oral Pathology

Associate Professors Bouquot (*Chairperson*) and Keyes.

338. *Oral Pathology*. (For dental students.) II. and S. 3 hr. PR: Consent; Path. 328. Application of knowledge gained in general pathology to study specific diseases affecting the oral cavity.

353. *Oral Pathology*. (For dental students.) I. 2 hr. PR: Consent; Dent. 338. Continuation of Dent. 338.
355. *Clinico-Pathologic Correlation Conference*. (For dental students.) II. 1 hr. PR: Consent; Dent. 338, 353. Interesting clinical cases are demonstrated grossly, radiographically, and histologically. Diagnosis is established and treatment discussed.
382. *Advanced Oral Histopathology*. (For dental and graduate students, residents, and interns.) II. 1 hr. PR: Consent; Dent. 338, 353. An elective seminar stressing the significant microscopic features and diagnosis of various oral lesions.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.
401. *Special Studies in Oral Pathology*. (For dental and graduate students, residents, and interns.) I, II, S. 1-3 hr. PR: Consent. Advanced study of local or systemic disease processes affecting oral structures through seminars, assignment of specific topics, or research activities.

Oral Surgery

Professor Emeritus Campbell; Professor Graves (*Chairperson*); Associate Professors Davidson and Fogarty; Assistant Professors Gilbert, Haley, King, Lattanzi, Oliverio, and Wilson.

300. *Anesthesiology*. II and S. 1 hr. Introduction to general anesthesia; lectures on local anesthesia, including types, modes of action, indications, and contraindications for use. Premedication, toxic effects, and technics of administration are discussed.
339. *Oral Surgery*. II. 1 hr. Didactic instruction in basic surgical principles as applied to the extraction of teeth and dentoalveolar surgery.
359. *Oral Surgery*. I and II. 2 hr. PR: Consent. Didactic instruction in patient evaluation, complicated exodontia, preprosthetic surgery, diagnosis, surgical and adjunctive treatment of disease, injuries, and defects of human jaws and associated structures.
364. *Pain and Anxiety Control*. I. 1 hr. PR: Consent. Instruction in the psychology, physiology, and clinical techniques of controlling pain and anxiety in the dental patient.
384. *Oral Surgery*. Yr. and S. 1-3 hr. PR: Consent. Clinical instruction in outpatient and inpatient oral surgery necessary to provide comprehensive care for the dental patient.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.
400. *Advanced Oral Surgery*. I, II, S. 1-12 hr. PR: Consent. Advanced study of therapeutics, hospital protocol, and surgical aspects of oral surgery involving lectures, seminars, demonstrations, and clinical applications.

Orthodontics

Associate Professors Bernard (*Chairperson*) and Bonello; Assistant Professors Dempsey, H. E. Martin, J. R. Martin, Valentine, and Wilfong.

345. *Principles of Orthodontics*. II. 1 hr. Facial growth and development, the development of dental occlusion, and etiology and classification of malocclusions.
346. *Orthodontic Technics*. S. 1 hr. Technical instruction in taking diagnostic records and constructing basic orthodontic appliances.
365. *Orthodontics*. II. 1 hr. Introduction to clinical orthodontics; lectures on case analysis, treatment planning, and clinical procedures involved in interceptive, preventive, and adjunctive treatment of malocclusions.

SCHOOL OF DENTISTRY COURSE SCHEDULE

First Year—Didactic Courses	Credit Hours	1st Sem.	2nd Sem.	S.
300—Anesthesiology	1		x	x
303—Oral Diagnostic Techniques	2		x	
304—Operative Dentistry	4		x	
305—General Biochemistry	4		x	
306—Gross Anatomy of the Trunk and Extremities	4		x	
307—Gross Anatomy of Head & Neck & Neuroanatomy	5		x	
309—Microanatomy and Organology	4	x	x	
310—Dental Anatomy and Occlusion	6	x		
311—Periodontics	1			x
312—Dental Materials	3	x		
313—Removable Prosthodontics	3	x		
314—Fixed Prosthodontics	1			x
315—Periodontics	3		x	
316—Removable Prosthodontics	1			x
317—Removable Prosthodontics	1		x	x
318—Oral Histology and Embryology	2	x		
319—Pediatric Dentistry	1		x	
320—Community Dentistry	1	x		
321—Endodontics	2			x
322—Operative Dentistry	2			x
323—Clinic Orientation	1			x
Second Year—Didactic Courses				
302—Microbiology	5	x		
325—Practice Management	1	x		
326—Community Dentistry	2		x	
327—Oral Radiology	1	x		
328—General Pathology	5		x	
329—Operative Dentistry	2	x		
330—Community Dentistry	1	x		
331—Dental Anatomy and Occlusion	2			x
332—Community Dentistry	1		x	
333—Physical Diagnosis	1		x	
334—Removable Prosthodontics	3	x	x	
335—Pediatric Dentistry	2	x	x	
336—Fixed Prosthodontics	6	x	x	
337—Oral Diagnosis	1		x	
338—Oral Pathology	3		x	
339—Oral Surgery	1		x	
340—Periodontics	1	x		
341—Removable Prosthodontics	2			x
343—Fundamentals of Physiology	5	x		
345—Principles of Orthodontics	1		x	
346—Orthodontic Technics	1			x
347—Management of Medical/Dental Emergencies	1			x
348—Operative Dentistry	1			x
349—Hospital Dentistry	1			x
Second Year—Clinical Courses				
376—Removable Prosthodontics	2-6		x	x
377—Periodontics	1-4	x	x	x
380—Endodontics	1-4	x	x	x
383—Operative Dentistry	2-8	x	x	x
384—Oral Surgery	1-3	x	x	x
386—Pediatric Dentistry	1-5	x	x	x
387—Clinical Oral Diagnosis	1-3	x	x	x
389—Fixed Prosthodontics	1-6		x	x
396—Clinical Oral Radiology	1-3	x	x	x

SCHOOL OF DENTISTRY COURSE SCHEDULE (Continued)

Third Year—Didactic Courses	Credit Hours	1st Sem.	2nd Sem.	S.
347 — Management of Medical/Dental Emergencies	1		x	
350 — Removable Prosthodontics	2	x	x	
352 — Community Dentistry	2	x	x	
353 — Oral Pathology	2	x		
354 — Community Dentistry	1		x	
355 — Clinico-Pathologic Correlation Conference	1		x	
357 — Fixed Prosthodontics	2	x	x	
358 — Operative Dentistry	1		x	
359 — Oral Surgery	2	x	x	
360 — Pharmacology	4	x		
361 — Pediatric Dentistry	1		x	
362 — Endodontics	1	x		
363 — Periodontics	2	x	x	
364 — Pain/Anxiety Control	1	x		
365 — Orthodontics	1	x	x	
371 — Practice Management	2	x		
372 — Practice Management	1		x	
373 — Practice Management	1		x	
374 — Principles of Medicine	2	x		

Third Year—Clinical Courses

376 — Removable Prosthodontics	2-6	x	x	x
377 — Periodontics	1-4	x	x	x
380 — Endodontics	1-4	x	x	x
383 — Operative Dentistry	2-8	x	x	x
384 — Oral Surgery	1-3	x	x	x
385 — Orthodontics	1-3	x	x	x
386 — Pediatric Dentistry	1-5	x	x	x
387 — Clinical Oral Diagnosis	1-3	x	x	x
389 — Fixed Prosthodontics	1-6	x	x	x
394 — Community Dentistry	1-15	x	x	
395 — Hospital Dentistry Practicum	1-15	x	x	x
396 — Clinical Oral Radiology	1-3	x	x	x

Fourth Year—Clinical Courses

375 — Practice Management	1-3	x	x	
376 — Removable Prosthodontics	2-6	x	x	
377 — Periodontics	1-4	x	x	
380 — Endodontics	1-4	x	x	
383 — Operative Dentistry	2-8	x	x	
384 — Oral Surgery	1-3	x	x	
385 — Orthodontics	1-3	x	x	
386 — Pediatric Dentistry	1-5	x	x	
387 — Clinical Oral Diagnosis	1-3	x	x	
389 — Fixed Prosthodontics	1-6	x	x	
394 — Community Dentistry	1-15	x	x	
395 — Hospital Dentistry Practicum	1-15	x	x	
396 — Clinical Oral Radiology	1-3	x	x	
397 — Special Topics*	1-15	x	x	

*The relationship of the number of elective and/or required hours during the fourth year may vary with each student depending upon the individual student's progress.

385. *Orthodontics.* Yr. and S. 1-3 hr. Clinical management of selected malocclusion problems.

397. *Special Topics.* (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Pediatric Dentistry

Professor Nash (*Chairperson*); Associate Professor Fenton; Assistant Professors Gwynn, Hagan, and Wilkerson; Instructors Nicholson and Spagnoli.

- 319. *Pediatric Dentistry*. II. 1 hr. PR: Consent. Normal growth and development presented from physical, intellectual, psychological, and oral perspectives. Behavior of children in dental environment reviewed and strategies for management examined.
- 335. *Pediatric Dentistry*. I and II. 2 hr. PR: Consent. Didactic instruction foundational to the dental care to children presented in the following modules of instruction: growth and development, behavior management, oral diagnosis/treatment planning/case presentation, prevention, restorative dentistry, pulpal therapy, management of the development occlusion and trauma to the dentition and oral structures.
- 361. *Pediatric Dentistry*. II. 1 hr. PR: Consent. Continued didactic instruction in dentistry for the child patient with the following learning packages programmed: treatment planning considerations and applications, abnormal dental development, oral habits, and dental care for handicapped children.
- 386. *Pediatric Dentistry*. I, II, S. 1-5 hr. PR: Consent. Instruction in the clinical setting with the goal of developing the psychomotor skills and judgment necessary to provide comprehensive care for the child patient.
- 397. *Special Topics*. (*Fourth Year*.) I and II. 1-5 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Periodontics

Professor Morrison (*Chairperson*); Associate Professors Crout, Hart, and Hornbrook; Assistant Professors Hurst, Oliver, Rodeffee, Rosenfeld, and Wanker.

- 311. *Periodontics*. S. 1 hr. Introduction to periodontal diseases, their diagnosis and treatment. Laboratory instruction is included.
- 315. *Periodontics*. II. 3 hr. A course encompassing an orientation to dental scientific literature and the introduction to the theory and practice of preventive dentistry.
- 340. *Periodontics*. I. 1 hr. Intermediate didactic instruction in periodontal therapy including basic surgery and post-operative care.
- 363. *Periodontics*. Yr. 2 hr. Advanced didactic instruction in periodontal therapy including special surgical procedures.
- 377. *Periodontics*. Yr. and S. 1-4 hr. Clinical experience in the diagnosis and treatment of periodontal diseases.
- 397. *Special Topics*. (*Fourth Year*.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Fixed Prosthodontics

Professor Emeritus Adams; Professors Bianco (*Chairperson*) and Tucker; Associate Professors Connor, Kwiatkowski, and Queen; Assistant Professors N. Smith and W. Taylor.

- 314. *Fixed Prosthodontics*. S. 1 hr. Preclinical lectures and laboratory exercises in which first-year students are introduced to the technics of preparing and restoring teeth with crown restorations.
- 336. *Fixed Prosthodontics*. Yr. 6 hr. PR: Consent. Lectures and laboratory exercises involving principles and technics of crown and bridge prosthodontics. Topics include types of dental bridges, their indications, and contraindications.
- 357. *Fixed Prosthodontics*. Yr. 2 hr. PR: Consent. Lectures concerned with clinical practice; diagnosis, treatment planning, treatment procedures, ceramics, esthetics, and occlusion.

389. *Fixed Prosthodontics*. Yr. and S. 1-6 hr. PR: Consent. Clinical application of the theory and practice of crown and bridge dentistry.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Maxillofacial Prosthodontics

Professor Bianco (*Chairperson*); Associate Professors Kluth and Lee.

397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Removable Prosthodontics

Professors Bianco (*Chairperson*) and DeCounter; Associate Professors Roth and Van Riper; Assistant Professors Beaumont, Camele, Harper, Sauter, and Stewart.

313. *Removable Prosthodontics*. I. 3 hr. Lectures and laboratory practice in biomechanical requirements of the edentulous patient.
316. *Removable Prosthodontics*. S. 1 hr. Lectures and laboratory practice in maxillomandibular relationships and occlusion.
317. *Removable Prosthodontics*. II. 1 hr. PR: Consent. A lecture course providing an introduction to removable partial denture prosthetics.
334. *Removable Prosthodontics*. Yr. 3 hr. Didactic and laboratory practice for treatment of the partially edentulous patients, and introduction to clinical complete denture prosthodontics.
341. *Removable Prosthodontics*. S. 2 hr. Clinical demonstrations correlating the didactic and laboratory practices with the actual treatment of a removable prosthodontic patient.
350. *Removable Prosthodontics*. Yr. 2 hr. Lectures concerned with clinical practice of complete and partial removable prostheses.
376. *Removable Prosthodontics*. Yr. and S. 2-6 hr. Continued application of the theory and practice of removable prosthodontics.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Advanced Education Programs

The School of Dentistry offers advanced education programs. The Department of Endodontics and the Department of Orthodontics offer programs of advanced study leading to the degrees of Master of Science (M.S.). Programs leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees are available in the basic sciences of Anatomy, Microbiology, Biochemistry, Pharmacology and Toxicology, and Physiology. The Department of Oral Surgery offers one oral surgery internship and three residencies. Seven general practice residencies also are offered by the School of Dentistry. Continuing education courses are offered throughout the year. Detailed information concerning admission requirements, courses of study, etc., in these programs may be obtained from the Office of the Associate Dean for Postdoctoral Programs, WVU School of Dentistry, P.O. Box 6305, Morgantown, WV 26506-6305.

Endodontic Program

Master of Science (M.S.)

The School of Dentistry and its Department of Endodontics offer a program of advanced study and clinical training leading to the degree of Master of Science (M.S.) The program requires a minimum of 24 months (two academic years and two summer sessions) of full-time residency in the School of Dentistry. It is designed to qualify dentists for careers in endodontic clinical practice, teaching, and research.

Inquiries concerning this program should be directed to the Office of the Associate Dean for Postdoctoral Programs. Applicants will be processed in the School of Dentistry. Applicants approved for admission to the program will be notified soon after January 15.

Requirements for Admission to the Endodontic Program

1. Graduation from an accredited school of dentistry.
2. Evidence of scholastic and clinical achievement that would indicate the applicant's ability to progress in a program of this nature.
3. Each applicant must file with the Department of Endodontics all information requested in the departmental application form.

Requirements for Degree of Master of Science

1. Fulfillment of general WVU graduate study requirements.
2. Twenty-four months (two academic years and two summer sessions) of consecutive residency at the WVU School of Dentistry.
3. An approved master's thesis based on original research completed during the period of residency in an area related to endodontics.
4. Must satisfactorily pass a final oral examination.
5. Must complete a minimum of 57 credit hours. These include 32 hours of endodontic courses, a minimum of 18 hours of selected basic sciences subjects, and a thesis (7 hours).
6. Must have demonstrated satisfactory clinical competency in the student's field.
7. Must have maintained a grade level commensurate with graduate education.

Dentistry (Dent.)

400. *Advanced Oral Surgery*. I, II, S. 1-12 hr. PR: Consent. Advanced study of therapeutics, hospital protocol, and surgical aspects of oral surgery involving lectures, seminars, demonstrations, and clinical applications.

Endodontics (Dent.)

390. *Clinical Endodontics*. I, II, S. 1-5 hr. PR: Graduate of an accredited dental school and admission to the Advanced Education Program in Endodontics or consent. (May be repeated for credit.) Clinical endodontic practice in the areas of: ordinary endodontic cases, complex endodontic cases, hemisection, root amputation, replantation, transplantation, endodontic implantation, vital pulp therapy, apexification, and bleaching.
391. *Endodontic Theory*. I, II, S. 2 hr. PR: Consent. Provides seminar discussions in the topics of: basic endodontic techniques, advanced endodontic techniques, endodontic literature review, case presentation, and advanced endodontic theory.
490. *Endodontic Teaching*. S. 2 hr. PR: Consent. Selected teaching experiences including lecture, clinical, and laboratory teaching of undergraduate endodontic courses.

497. Endodontic Research. I, II, S. 2-3 hr. PR: Consent. Students will prepare a research protocol, conduct experimental research, and prepare a thesis of original endodontic research.

Microbiology (M. Bio.)

317. *Special Problems in Microbiology*. I, II, S. 1-7 hr. per sem. with a total of 24 hr. available. Pathogenic microorganisms, including immunology and antimicrobial agents.

Pathology (Path.)

382. *Oral Histopathology*. (For graduate and dental students.) I, II. 1-2 hr. PR: Consent. Advanced study of the microscopic aspects of oral and paraoral disease through weekly seminars with emphasis placed on diagnosis.
401. *Special Studies in Oral Pathology*. I, II. 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.

Pharmacology and Toxicology (Pcol.)

360. *Pharmacology*. I. 4 hr. PR: Consent. Lecture and laboratory on pharmacologic actions and therapeutic uses of drugs.

Statistics (Stat.)

311. *Statistical Methods 1*. I, II. 3 hr. PR: Math. 3. Statistical models, distributions, probability, random variables, tests of hypotheses, confidence intervals, regression, correlation, transformations, F and Chi-square distributions, analysis of variance and multiple comparisons. (*Equiv. to Ed. P. 311 and Psych. 311.*)

Orthodontic Program

Master of Science (M.S.)

The School of Dentistry and its Department of Orthodontics offer a program of advanced study and clinical training leading to the degree of Master of Science (M.S.) The program requires a minimum of 24 months (two academic years and two summers) of full-time residency in the School of Dentistry. It is designed to qualify dentists for careers in orthodontic clinical practice, teaching, and research.

Inquiries concerning this program should be directed to the Office of the Associate Dean for Postdoctoral Programs. Those applicants approved for admission to the program will be notified soon after January 15.

Requirements for Admission to the Orthodontic Program

1. Graduation from an accredited dental school.
2. Evidence of scholastic and clinical achievement that would indicate the applicant's ability to progress in a program of this nature. Generally, a minimum grade-point average of 2.75 is required for admission.
3. Each applicant must file with the department all information requested in the department application form.

Requirements for Degree of Master of Science

1. Fulfillment of general WVU graduate study requirements.
2. Twenty-four months (two academic years and two summers) of consecutive residency at the School of Dentistry.
3. An approved master's thesis based on original research completed during the period of residency in an area related to orthodontics.
4. Must satisfactorily pass a final oral examination.

5. Must complete a minimum of 50 credit hours. These include 35 hours of orthodontic courses, a minimum of 9 hours of selected basic sciences subjects, a minimum of 6 hours of elective allied subjects, and a thesis (6 hours).

6. Must have demonstrated satisfactory clinical competence in the student's field.

7. Must have maintained a grade level commensurate with graduate education.

Anatomy (Anat.)

315. *Craniofacial Osteology and Myology*. I, 3 hr. PR: Dental, medical, or graduate student standing or consent. Study of craniofacial embryology, morphology, and physiology, with special emphasis on articulations and their clinical applications.
316. *Craniofacial Growth and Maturation*. II, 3 hr. PR: Anat. 315 or consent. The current concepts of craniofacial growth and maturation are presented and integrated for application to clinical problems.

Orthodontics (Dent.)

416. *Biomechanics*. I, II, S. 2 hr. PR: Consent. Design and function of the teeth and their surrounding structures, and response of these tissues to orthodontic procedures.
417. *Orthodontic Technique*. I, II, S. 2 hr. PR: Consent. Laboratory course in techniques related to fabrication and manipulation of orthodontic appliances.
418. *Orthodontic Materials*. I, II, S. 1 hr. PR: Consent. Physical properties of materials used in orthodontic appliances.
419. *Orthodontic Diagnosis*. I, II, S. 1-3 hr. PR: Consent. Seminar-type class on technique of patient examination, acquiring diagnostic records, and analyzing and correlating this information to the treatment of clinical problems.
420. *Cephalometrics*. S. 1-3 hr. PR: Consent. Use of radiographic cephalometry in studying growth of the human face, analysis of dentofacial malformations, and evaluation of orthodontic treatment.
421. *Orthodontic Mechanics*. I, II, S. 1-4 hr. PR: Dent. 416, 417. Seminar and laboratory course on basic orthodontic mechanical properties.
422. *Advanced Orthodontic Mechanics*. I, II, S. 1 hr. PR: Dent. 421. Continuation of Dent. 421 involving more difficult type cases and introducing more sophisticated appliance therapy.
423. *Growth and Development*. II, 1-5 hr. PR: Consent. Seminar-type course on normal and abnormal growth of the human head and its application to orthodontics.
425. *Orthodontic Seminar*. I, II, S. 1-8 hr. PR: Consent. Discussions involving all branches of dental science, with special emphasis on the orthodontic interest. Assigned topics and articles in the literature discussed.
426. *Orthodontic Clinic*. I, II, S. 1-12 hr. PR: Dent. 416, 417. Clinical treatment of selected patients.
497. *Research*. I, II, S. 1-15 hr.

Pathology (Path.)

401. *Advanced Oral Pathology*. I, II, 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.

Statistics (Stat.)

311. *Statistical Methods 1*. I, II, 3 hr. PR: Math. 3. Statistical models, distributions, probability, random variables, tests of hypotheses, confidence intervals, regression, correlation, transformations, F and Chi-square distributions, analysis of variance and multiple comparisons. (Equiv. to Ed. P. 311 and Psych. 311.)

Dental Hygiene Program

The Dental Hygiene Program is a department of the School of Dentistry. The four-year dental hygiene curriculum combines the advantages of both a liberal arts and a professional education. This curriculum format has departed from the conventional, but there is a definite conviction that the inclusion of many disciplines provides greater strength to the program. The educational objectives of the Dental Hygiene Program are:

To prepare individuals to perform to the level of competency specified by the faculty, the state boards of dental examiners, and employers of those oral health services legally approved for a dental hygienist in any state, district, or territory of the United States. Presently, these services include: observation, recording, prevention, treatment, education, and communication.

To prepare individuals capable of performing the clinical skills delegated to any dental auxiliary (excluding the dental laboratory technician).

To prepare dental hygienists to teach clinical skills and to present didactic information in dental auxiliary education programs.

To prepare individuals capable of performing coordinative and administrative functions in public health and community related areas.

To prepare individuals for the dental hygiene profession who have a keen sense of social awareness and professional responsibility.

To prepare dental hygienists to continue their professional development past graduation through formal training, self-study, and independent thought.

To prepare individuals who have the capability to understand and adapt to new developments and changes in the scientific, sociologic, and practical factors pertaining to health.

To provide the educational foundation for higher education.

Upon completion of all requirements and with the recommendation of the School of Dentistry, the candidate is awarded the degree of Bachelor of Science in Dental Hygiene (B.S.)

The Dental Hygiene curriculum is structured in accordance with the standards specified for a Dental Hygiene Program by the Commission on Accreditation of the American Dental Association. The program has been fully accredited by this organization since 1965.

Admission

Students enter dental hygiene as freshmen, and the general admission policies of West Virginia University are followed. The applicant must be a graduate of an accredited high school or preparatory school and have completed 1 unit of plane geometry, biology, and chemistry, 2 units of algebra, and 4 units of English. Good grades are expected, and applicants should rank in the upper one-third of their graduating class. Particular attention is given to academic achievement in science courses.

The American College Testing Program (ACT) examination is required of high school applicants. A high school counselor can supply information concerning this examination.

In addition to a special application form for dental hygiene, each candidate for admission is supplied with three standardized reference forms. Each applicant is requested to have one dental hygienist and two other individuals return the forms directly to the Department of Dental Hygiene.

The personal qualifications, scholastic record, test scores, and recommendation of each applicant are reviewed by the Dental Hygiene Admissions Committee. After reviewing these credentials, the committee will

request an interview with those applicants who are most qualified. The applicant will be notified by letter of the date, time, and place of the interview.

The competition for entrance into dental hygiene is extremely keen. *Nonresidents should recognize that preference is given to West Virginia residents. Only those nonresidents with the highest qualifications will be considered.*

For application materials the applicant should write to the Department of Dental Hygiene, P.O. Box 6305, West Virginia University, Morgantown, WV 26506-6305; or the Office of Admissions and Records, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301. Applicants should apply and complete aptitude tests as early as possible in the year preceding the year admission is desired. Applications are available in September and are not accepted after March 1.

Promotion

At the end of each semester, the status of each dental hygiene student is reviewed by the Dental Hygiene Committee on Academic Standards. This committee then makes recommendations to the Dean. Final disposition in each case is the prerogative of the Dean and the Chairperson of Dental Hygiene.

Unconditional promotion normally depends upon fulfillment of all course requirements and the attainment of both a minimum cumulative grade-point average and a minimum science-dental hygiene grade-point average. These minimum grade-point averages are: a 1.50 for promotion to the second year; a 1.75 for promotion to the third year; a 2.0 for promotion to the fourth year; and a 2.0 for graduation.

The courses (or equivalents) utilized to calculate the science-dental hygiene grade-point average are: Anatomy 101; Biology 1; Chemistry 11, 12; Dentistry 300; Microbiology 26; Pathology 128, 129; Pharmacology and Toxicology 160; Physiology 141; and *all* courses in Dental Hygiene (Dnt. Hy. 1-220).

Students who do not qualify to be promoted unconditionally may be placed on probation or may be suspended from further studies in the Department of Dental Hygiene. Probationary status implies that the student will be allowed to make up deficiencies or be given an opportunity to repeat a year.

If a student is promoted on probation, the student must reach the required minimum standards specified above. Students on probation who do not obtain these standards will be reevaluated by the committee.

The Department of Dental Hygiene reserves the right to suspend or require remedial work of any student who does not perform at a level satisfactory for patient care.

Professional Organizations

The American Dental Hygienists' Association is the official organization representing the dental hygiene profession. Student dental hygienists have the opportunity of student membership in the association.

Sigma Phi Alpha is the national dental hygiene honorary society. Student membership is limited to 10 percent of each graduating class. Candidates are selected on the basis of scholarship, character, and potential as a dental hygienist.

DENTAL HYGIENE CURRICULUM PLAN

First Year				Second Year			
First Sem.	Hr.	Second Sem.	Hr.	First Sem.	Hr.	Second Sem.	Hr.
Engl. 1	3	G.P.E. 2	1	Anat. 101	4	Physi. 141	4
G.P.E. 1	1	Chem. 12	4	Path. 128	2	Path. 129	3
Core A		Dnt. Hy. 2	3	Dnt. Hy. 105	2	Pcol. 160	3
(Spch. 11 & 12)	3	Dnt. Hy. 85	3	Nutrn. 71	3	Dnt. Hy. 120	1
Biol. 1	4	Dnt. Hy. 90	3	Ed. P. 105	3	Dnt. Hy. 125	4
Chem. 11	4	Core B		M. Bio. 26	4	Engl. 2	3
Dnt. Hy. 1	2	(Soc.&A. 1)	3				
Dnt. Hy. 66	1						
	<u>18</u>		<u>17</u>		<u>18</u>		<u>18</u>

Third Year				Fourth Year			
First Sem.	Hr.	Second Sem.	Hr.	First Sem.	Hr.	Second Sem.	Hr.
Dnt. Hy. 168	1	Dnt. Hy. 169	1	Dnt. Hy. 202	2	Dnt. Hy. 206	2-4
Core A (Elective)	3	Dnt. Hy. 174	2	Dnt. Hy. 205	6	Electives	
Core B (Psych. 1)	3	Core B	3	Core B		Maximum	15
Dnt. Hy. 152	2	(Psych. 141 or 164)		(Upper-Division		Minimum	12
Anes. 300	1	Core A (Electives)	6	Soc.&A.)	3		
Dnt. Hy. 172	2	Dnt. Hy. 150	2	Electives			
Dnt. Hy. 155*		Dnt. Hy. 155*		Maximum	7		
Dnt. Hy. 154*		Dnt. Hy. 154*		Minimum	4		
					<u>15-18</u>		<u>14-18</u>

*Year courses: Dnt. Hy. 155—6 credit hours: Dnt. Hy. 154—4 credit hours.

American Association of Dental Schools. This association of dental educational institutions and faculties has as its primary purpose to promote and improve dental education. Dental hygiene students may join as student members.

West Virginia University School of Dentistry Alumni Association. Graduates of the Department of Dental Hygiene may join and participate in all activities of the Alumni Association.

Courses of Instruction in Dental Hygiene

Associate Professors Komives (*Chairwoman*), Crystal, DeBiase, Graves, Kaplan, and Sherrill; Assistant Professors Krouse and Morgan; Instructor Arceneaux; Adjunct Professor Ramsey; School of Dentistry faculty.

(Courses included in the Dental Hygiene curriculum, but not listed here, will be found either under other department listings in this *Catalog* or the *WVU Undergraduate Catalog*.)

Dental Hygiene (Dnt. Hy.)

1. *Orientation to Dental Hygiene.* I. 2 hr. PR: Enrollment in dental hygiene. Historical development of dental hygiene with emphasis on the philosophy, responsibilities, and current role of the dental hygienist as a member of the dental health team.
2. *Introduction to the Dental Specialties.* II. 3 hr. PR: Dnt. Hy. 1 or consent. Survey of functions and responsibilities of each of the dental specialties. Emphasis on the role of the dental assistant and dental hygienist in each type of practice.
66. *Technical Expression and Dental Literature.* I. 1 hr. PR: Enrollment in dental hygiene. Preparation and uses of professional communication.

85. *Oral Anatomy*. II. 3 hr. PR: Enrollment in dental hygiene. Human teeth and the anatomy of the head and neck with emphasis on structures in or related to the oral cavity.
90. *Oral Histology*. II. 3 hr. PR: Enrollment in dental hygiene. Histological structures of the teeth and tissues of the oral cavity and the morphological development of these structures.
105. *The Theory and Practice of Prevention*. I. 2 hr. PR: Enrollment in dental hygiene. Philosophy and techniques of preventive dentistry.
120. *Dental Nursing Technics*. II. 1 hr. PR: Enrollment in dental hygiene. Emergency first aid and principles of nursing applicable to the dental office.
125. *Dental Hygiene Technics*. II. 4 hr. PR: Enrollment in dental hygiene. Fundamental principles and technics of dental hygiene are presented through lectures, laboratory, and clinical participation.
150. *Dental Health Education*. II. 2 hr. PR: Enrollment in dental hygiene. Lectures, demonstrations, and field experiences on the methods, materials, and resources used in teaching dental health to various population groups.
152. *Dental Radiology*. I. 2 hr. PR: Enrollment in dental hygiene. Basic principles and procedures in oral radiology technics and interpretation.
154. *Clinical Dental Hygiene*. I, II. 4 hr. PR: Dnt. Hy. 125. Lectures and clinical application of dental hygiene principles and technics.
155. *Expanded Functions*. I, II. 6 hr. PR: Enrollment in dental hygiene. Lecture, laboratory, and clinical course covering the materials and technics of restorative dentistry and expanded duties for the dental hygienist.
168. *Periodontics*. I. 1 hr. PR: Enrollment in dental hygiene. Tissues of the periodontium, histopathology of periodontal disease with emphasis on etiology, examinations, diagnosis, treatment, and prevention within the scope of dental hygiene.
169. *Periodontics*. II. 1 hr. PR: Dnt. Hy. 168. A sequential course to Dnt. Hy. 168. Includes recognition and treatment of periodontal disease with emphasis on occlusion, surgical procedures, and post-operative care of patients.
172. *Public Health*. I. 2 hr. PR: Enrollment in dental hygiene. Theory and practice of preventive dentistry and community health.
174. *Dental Hygiene Teaching Methods*. II. 2 hr. PR: Enrollment in dental hygiene. Concepts and principles of administration, curriculum, and clinical teaching unique to dental auxiliary education. Emphasis on overall role of the dental hygiene educator.
202. *Dental Hygiene Practice*. I. 2 hr. PR: Senior enrollment in dental hygiene. Scope of practice for the dental hygienist including ethical and legal considerations. Public and professional relations as well as practice management are discussed.
205. *Advanced Clinical Dental Hygiene*. I. 5-6 hr. PR: Senior enrollment in dental hygiene. Role of the dental hygienist in an orthodontic practice, pre- and post-operative care of surgical patients, and introduction to research. Students gain clinical experience in both traditional and expanded duties of the dental hygienist.
206. *Advanced Clinical Dental Hygiene*. II. 2-4 hr. PR: Senior enrollment in dental hygiene. Continuation of clinical practice experience in dental hygiene procedures.
220. *Special Topics in Dental Hygiene*. I, II. 1-22 hr. PR: Senior enrollment in dental hygiene. Special topics relevant to dental hygiene. A variety of sections offer elective opportunities to dental hygiene majors.

School of Medicine

The School of Medicine began as the College of Medicine in 1902. For ten years this program was affiliated with the College of Physicians and Surgeons of Baltimore, Md. In 1912 the School of Medicine had its formal beginning as an independent school offering the first two years of the medical curriculum. The School of Medicine moved from the Downtown Campus to the Medical Center in 1957 and inaugurated a four-year program in 1960. This coincided with the opening of University Hospital. In 1961, the first M.D. degrees were awarded to 15 students.

In 1945 the School of Medicine established a curriculum in Medical Technology leading to a degree of bachelor of science. The first graduates were awarded a combined degree by the College of Arts and Sciences and the School of Medicine in 1947. The Program of Medical Technology was established in the School of Medicine in 1961. The division of Physical Therapy was established and accepted its first class of 16 students in 1970. The division offers the final two years of a baccalaureate program leading to a degree in physical therapy.

West Virginia University Medical Center—Charleston Division was established in October, 1972, with the affiliation of WVU and the Charleston Area Medical Center. The Charleston Division offers programs for third and fourth-year medical students in a variety of required and elective courses.

West Virginia University School of Medicine—Wheeling Division was established in 1974. This program is available for many elective opportunities for students in the fourth year.

Committees (Chairpersons)

Academic Standards: Gunter N. Franz.

Biomedical Research Support: Duane E. Haines.

Dean's Committee to Clarksburg VA Hospital: Richard A. DeVaul.

Curriculum Committee: James L. Culberson.

Executive Faculty: Richard A. DeVaul.

Educational Advisory: Richard A. DeVaul.

Faculty Promotion: Michael G. Mawhinney.

Medical School-Hospital Liaison to Student Body: Richard A. DeVaul.

Student Admissions: John W. Traubert.

E. J. Van Lier Student Research Convocation: Wilbert E. Gladfelter.

Outstanding Teachers: Howard D. Colby.

Continuing Medical Education: Robert L. Smith.

Intern Advisory: John F. Foss.

Admissions Committee for Medical Technology: Anne W. Sharpe.

Admissions Committee for Physical Therapy: Carolyn E. Barnes.

Degree

The degree of Doctor of Medicine (M.D.) is granted to students who have completed the prescribed curriculum and who have been recommended for the degree by the faculty of the School of Medicine.

Combined M.D.-Ph.D. Program

This should be considered only by students who have shown exceptional interest and promise. All of the admission requirements of the School of

Medicine and the specific graduate program will apply. Specific course requirements and procedures for monitoring progress will be detailed by both programs.

Admissions

Because of the large number of applicants and limited openings available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants who have ties to the state of West Virginia will also be considered. Careful consideration is given to those personal qualifications which bear upon fitness of the applicants for the study and practice of the profession.

When to Apply for Admission

Application for admission in August, 1985, should be made beginning June 1, upon completion of the 1983-84 school year. The latest date for filing an application is November 30, 1984. It is desirable for applicants to file early and to make certain that New Medical College Admission Test scores, current transcripts, and letters of recommendation are available to the Committee on Admissions.

College Credit Required

The applicant should present a broad general education including a major in some field, not necessarily a natural science. The Admissions Committee needs evidence of excellence of academic performance and steady progress toward a goal.

An excess of credit hours or higher degrees does little to offset the disadvantages of low grades in securing admission to the School of Medicine. The practice of repeating courses to raise the grade is discouraged. Applicants who have been subject to suspension from the West Virginia University or other medical schools can be admitted only in very exceptional cases and at the discretion of the Committee on Admissions.

English	1 year
Biological Sciences (with laboratory)	1 year
Inorganic Chemistry (with laboratory)	1 year
Organic Chemistry (with laboratory)	1 year
Physics (with laboratory)	1 year
Social or Behavioral Sciences	1 year

A strong quantitative background is recommended, including calculus.

A total of 90 semester hours of work, exclusive of Military Science (ROTC) and General Physical Education, is required.

It is recognized that applicants for medical school may have very diverse undergraduate backgrounds with a variety of majors. While many undergraduate courses, aside from the required prerequisites, might be beneficial in providing additional background for medical school, the choice of such courses should be determined by the academic strengths and weaknesses of the particular applicant.

New Medical College Admission Test

The scores of the New Medical College Admission Test (New MCAT) are used by the Admissions Committee in considering an applicant for admission. For this reason, it is strongly recommended that students take the test in the

Spring before making application for admission. Delaying the test until Fall, even though all science courses may not have been completed, jeopardizes an applicant's opportunity since no final consideration is given until New MCAT scores are obtained by the Admissions Committee. No applicant can be considered who delays taking the New MCAT until Spring of the year of expected entry. Information concerning the time and place of the test can be obtained from your premedical adviser or committee. The New Medical College Admission Test is required of all applicants and it must have been taken within the past two years before applying.

Personal Interview

No applicant is admitted without an interview by the Committee on Admissions. Currently, all residents of West Virginia are granted an interview. Qualified nonresident applicants are interviewed at the discretion of the Committee on Admissions. The applicant is notified of the time and place of the interview. Interviews and consideration of applicants begin in September.

Conditions Following Acceptance

The accepted applicant is expected to meet all entrance requirements and satisfactorily complete all undergraduate work in progress. A satisfactory performance in the completion of such work is defined as one which is consistent with the student's previous academic record. Failure to do so may result in the withdrawal of the acceptance by the Committee on Admissions.

It should also be apparent that furnishing or causing to be furnished false information for the purpose of the School of Medicine application constitutes grounds for disciplinary action, including but not limited to expulsion or revocation of the acceptance.

Admission to Advanced Standing

Increasing numbers of inquiries are being received seeking consideration of enrollment in the WVU School of Medicine with advanced standing. Only a limited number of such requests can be processed. Transfer ordinarily will be considered only at the end of the second year. The applicant must have presented results of the Medical Science Knowledge Profile (MSKP) Test and must present certification of good standing in the school from which the student is transferring.

Examinations and Evaluation of Student Progress

It is the policy of the School of Medicine that the several departments conduct examinations of various types from time to time to help in the overall evaluation of student progress. A Satisfactory (S) or Unsatisfactory (U) designation is formally recorded for each course. In addition, each department files in the Office of the Dean a narrative evaluation of the work of each student identifying strengths and weaknesses and suggesting remedial or corrective measures, if appropriate.

In addition to departmental examinations, which help serve as a basis for recording grades in individual courses, other examinations may be conducted at times for other purposes. At the end of the first year a comprehensive examination, designed on an interdepartmental basis, may be required as a test of readiness for promotion. National Board of Medical Examiners, Part I, examinations are given as part of the testing of achievement in individual

disciplines and are incorporated in the final grade for that course. The student is encouraged to take the complete Part I examination as a candidate for National Board certification near the end of the second year. The Part II examination is required as a comprehensive test in clinical science at the end of the third year and results are incorporated in the final grades for clinical clerkships.

The overall performance of the student on the National Boards will be taken into account by the Committee on Academic Standards when considering decisions regarding promotion, and by the faculty when making the official recommendation for granting degrees.

All states require that physicians be licensed to practice medicine. Satisfactory completion of all portions of the National Board of Medical Examiners examination is one mechanism by which a license may be obtained.

Promotions and Progress

The Committee on Academic Standards administers the promotions and dismissal rules. Exceptions may be made only on recommendation of the committee. The application of rules on dismissal is not automatically changed by removal of Incomplete (I) grades or by the repetition of courses in other medical schools.

1. The Committee on Academic Standards of the School of Medicine reviews the performance of each student in every course at the end of each academic period and makes recommendations to the Dean. If a student has been found to have an unsatisfactory performance in any of the required courses, dismissal from the school may be recommended. In selected circumstances, the committee may recommend remedial work or repetition of all or a portion of the curriculum.

Rarely, a student may be subject to remedial work or dismissal on recommendation of the Committee on Academic Standards to the Dean even though no Unsatisfactory (U) grade has been received in a required course. Such an unusual event would occur only if, in the opinion of the committee, the student's overall performance does not meet the academic standards of the School of Medicine.

2. No student will be permitted to register for any work of the second or subsequent year until all courses for the year before have been completed successfully.

3. All courses and all classes at the School of Medicine are graded as Satisfactory (S) or Unsatisfactory (U) at the completion of the course in lieu of other letter grades. The S and U designation is accompanied by a narrative report of the student's progress and any factors requiring remedial work or counseling. The U shall be regarded as a failing grade and all University regulations regarding a failed course shall then apply.

4. Readmission of a dismissed student is the prerogative of the Committee on Admissions after careful review of the student's performance, including but not limited to, recommendations of the Committee on Academic Standards.

5. All nondisciplinary matters are governed by the concept of academic due process.

6. Upon concurrent recommendation of the Committee on Admissions, the Committee on Academic Standards, and the departments concerned, a limited number of students may be admitted to the School of Medicine to follow a special schedule reflecting the student's individual needs to complete requirements for the M.D. degree.

In view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of the University the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

Incomplete Courses

The grade of Incomplete (I) is given when the instructor believes the work is unavoidably incomplete or that a supplementary examination is justifiable. If a grade of I is not removed by satisfactory completion of the work before the end of the next semester in which the student is in residence, it becomes a failure unless special permission to postpone the work is obtained from the Committee on Academic Standards (University rule.) It is the responsibility of the student to consult the instructor about the means and schedule for making up incomplete courses.

Departure From Scheduled Work

Medical students must register for all prescribed courses for each semester except by special permission from the Committee on Academic Standards of the School of Medicine. This permission is not valid until it has been reported to the Assistant to the Dean of Admissions and Records, Medical Center, for record.

Departure

Interruption of academic work must be approved by the Committee on Academic Standards in its recommendation to the Dean except in urgent circumstances, such as for illness.

Honor Code

Students in the School of Medicine agree to abide by the provision of an honor code which requires ethical and moral standards of conduct in all situations.

Immunizations

It is required that during the first semester of the first year all students must complete certain prescribed immunization and diagnostic procedures.

University Hospital and Outpatient Clinics

University Hospital and its outpatient clinics are dedicated to the education of students in the multiple disciplines of the health fields and to the advancement of knowledge in the sciences and arts concerned with health and illness.

Specialist services at University Hospital are provided through the staff of the clinical departments of the School of Medicine.

There are also facilities and staff for clinical laboratory service, diagnostic and therapeutic X-ray services, and such special examinations as electrocardiography, cardiac catheterization, and electroencephalography. Emergency facilities are available at all times.

Organizations

Graduates of the School of Medicine have a *School of Medicine Alumni Association* devoted to the interests of students and graduates and to the encouragement of scientific and professional progress among its members and the medical profession generally.

Student American Medical Association. This organization has a chapter among the students of this school. An Auxiliary provides opportunities for student wives to meet and work together.

Student National Medical Association. This organization has among its objectives assistance in the recruitment and retention of minority students.

Lectureships

Alumni Lectureship. Annually some outstanding physician is brought to the WVU Medical Center under School of Medicine Alumni Association sponsorship to address the student body.

Gideon Stanhope Dodds Lectureship. A periodic lectureship, founded by a group of alumni and friends, honors Dr. Dodds, late professor emeritus of histology and embryology.

Curriculum Plan

First and Second Years

The plan of study is directed toward the principles and methodology of the medical basic sciences. However, the basic courses are designed so that the student begins to integrate concepts of patient care.

The student has the opportunity of an additional early exposure to patient-oriented instruction through the introduction to physical diagnosis and community medicine in the first term of the freshman year.

With the recognition that entering medical students have a wide variety of interests and backgrounds, elective opportunities are offered in the basic science years, beginning with the second term of the freshman year. The permissible elective courses or plans of study have broad limits and need not be confined to the Medical Center. The intention is to encourage responsible student initiative.

See Medicine I and Medicine II charts for representative schedules.

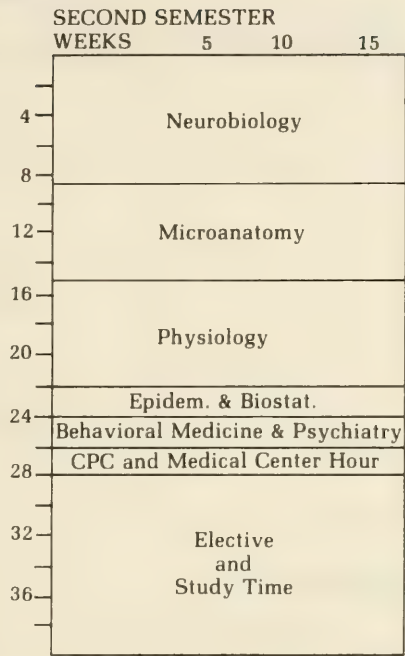
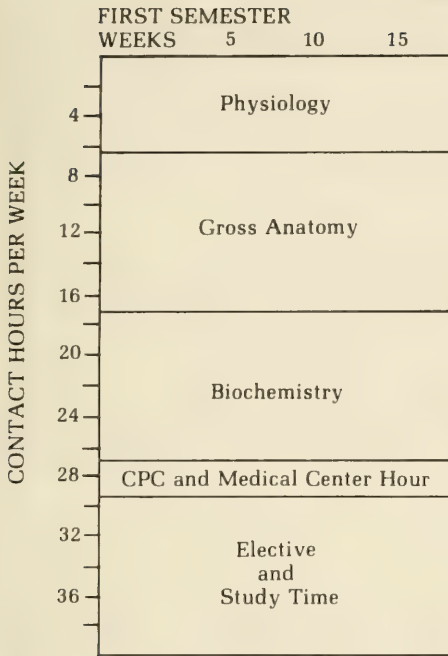
Third Year

A tightly-structured traditional third year gives the student a foundation in history-taking, examination, patient relations, laboratory aids, diagnosis, treatment, and use of the medical literature in the major clinical disciplines.

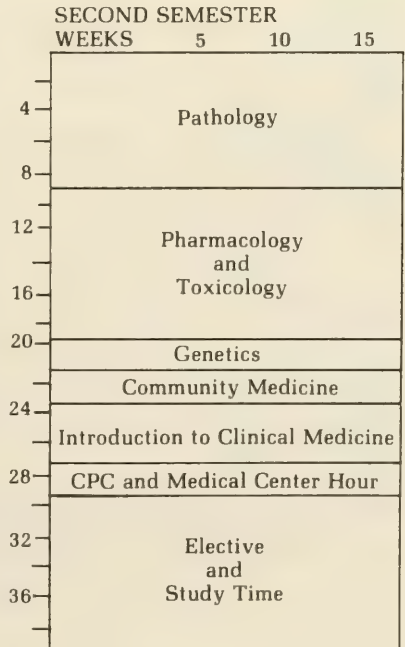
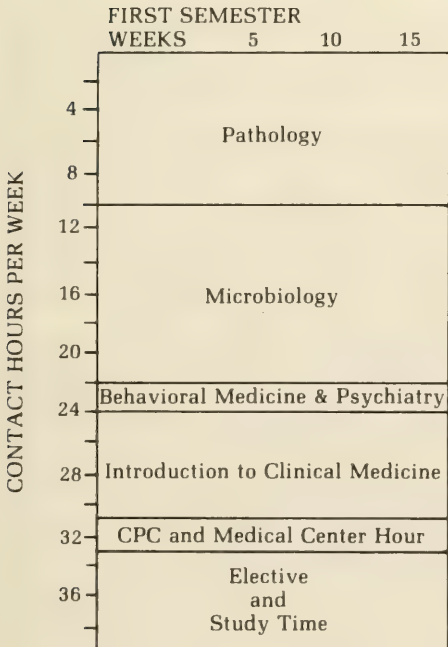
A number of third-year students will spend part or all of the year in specified clerkships at the Charleston Division of the WVU Medical Center or other affiliated programs as designated by the faculty of the School of Medicine.

Ordinarily, third-year students should take Part II of the NBME in September of their fourth year. Under special circumstances, third-year students may take Part II of the NBME in April of their third year even though they will not have completed all of their clinical clerkships.

MEDICINE I



MEDICINE II



MEDICINE III

Clerkships

WEEKS

12	Medicine
12	Surgery
12	Behavioral Medicine and Psychiatry
	Obstetrics and Gynecology
12	Pediatrics
	Neurology, Pediatrics OPD, Acute Medicine
48	TOTAL

Fourth Year

The fourth year is selective. The student chooses one of three "tracks" and works with advisers at each tract to select the individual program. The general track is appropriate for: (1) the student pointing toward family practice, and (2) the student who has not selected a particular speciality interest.

The student chooses a specialty track by department, and may already recognize an attraction to a sub-specialty within that department. The research track offers opportunity to spend much of the fourth year in medical or biological research.

Sixteen of the 44 weeks must be spent in intramural programs. In addition to programs on the Morgantown campus, the programs at the Charleston Division—WVU Medical Center, qualify as intramural. A similar designation for specific programs is in development at the Wheeling Division—WVU School of Medicine and the Veterans Administration Hospital in Clarksburg. A folder is available that lists the approved intramural selective options.

A number of assigned fourth-year students will take all of their clerkships at the Charleston Division of the WVU Medical Center.

The Joint Council of Teaching Hospitals, working with physicians in various communities and the School of Medicine, has developed extramural selective opportunities at a number of hospitals in West Virginia. Alternatively, the selectives may be spent at a university or university-affiliated hospital.

Every student has the opportunity for 4 weeks of vacation. The student may choose valuable medical experience for vacation time.

A separate booklet lists the extramural in-State electives and provides specific guidelines for the fourth-year curriculum.

MEDICINE IV
Three Alternative Tracks

WEEKS	GENERAL	SPECIALTY	RESEARCH
4	Vacation	Vacation	Vacation
12	Special Selective Advisory Group Concurrence	Special Selective Department Chairperson Concurrence	Special Selective Advisory Group Concurrence
8	Clinical Neuro Sciences, Behavioral Medicine and Psychiatry, Radiology Ob Gyn or Pathology Including Clinical Pathology	Department Chairperson Approval	Advisory Group Approval
8	Medicine and or Pediatrics, Including Sub Specialty Units		
8	Surgery, Including Sub Specialty Units		
4	Acute and Ambulatory Care		
44	TOTAL		

Courses of Instruction

Anesthesiology (Anes.)

Professors Eller (*Chairperson*), Heironimus, Kennedy, Smith, and Rodman; Associate Professors Bettinger, Dedhia, Doshi, Graf, Martinez, Sklar, and Zimmerman; Assistant Professors Green, Patrick, Schiebel, Teba, and Warren; Instructors Bowen and Long; Clinical Professors Cwik, Weeks, and Zeedick; Clinical Associate Professors Hall, Lilly, and Tercan; Clinical Assistant Professors Bellotte, Carter, Gannon, Glick, Hovis, Jawalaker, Kessell, Larkin, Mathew, Rajaratnam, Scheinholtz, and Westmoreland; Clinical Instructors Chevuru, Mixon, Saldanha, Thompson, and Walker.

301. *Basic Sciences Applied to Anesthesia—Medicine I and II.* 1-6 hr. per year. PR: Consent. (Not offered during summer.) Examination and evaluation of data, decision-making, discussion of special procedures. (Max. enrollment: 10.)

331. *Clinical Clerkship in Anesthesiology/Acute Medicine. (Third Year.)* CR.

A. *Lectures to Third-Year Students on Topics Related to Anesthesiology.*

B. *Clinical Clerkship in Acute Medicine.* Preanesthetic evaluation, local and systemic anesthesia, airway management, cardiopulmonary resuscitation, respiratory care, clinical pharmacology, toxicology, fluid and blood therapy, and pain management. Seminars and practical exercises in emergency cardiac life support clinical experience in ICU or OR. (Duration: 2 weeks.)

C. *Pain Clinic.* Objective: To evaluate and treat patients with intractable pain from various disease states. Direct participation through a multidisciplinary approach using modalities of nerve blocks, physical therapy, sensory modulation, behavioral therapies, and neuropharmacology. Participation from Departments of Anesthesiology and Behavioral Medicine and Psychiatry. Duration: 2-8 weeks. Offered: Continuously. (Max. enrollment: 2.)

399. *Selective Experiences in Anesthesiology. (Fourth Year.)* CR. (See Conjoined Courses.)

A. *Clinical Anesthesiology.* Participation in all aspects of intensive and respiratory care. Laboratory methodology. Measurement of ventilatory and circulatory parameters. Ventilator use and management. Offered continuously. Duration: 4 weeks. (Max. enrollment: 2.)

B. *Intensive and Respiratory Care.* Direct participation in all aspects of intensive and respiratory care. Laboratory methodology. Measurement of ventilatory and circulatory parameters. Ventilator use and management. Offered continuously. Duration: 4 weeks. (Max. enrollment: 2.)

497. *Anesthesiology Research.* 1-15 hr. Participation in a variety of ongoing clinical research projects and/or in laboratory research related to the mechanism of action of analgesic drugs upon neurotransmitters and neuronal pathways involved in pain inhibition particularly monoaminergic and opioid processes. Duration: 4-24 weeks. Offered: By arrangement. Max. enrollment: 2.

Behavioral Medicine and Psychiatry (B.M.)

Professors Azzaro, Carter, DeVaul, Flink, Hein, Kelley, Morgan, Morgan, Quarrick, Stevenson (*Chairperson*), Waldman, and Watne; Research Professor Haynes; Associate Professors Chelune, Claude, Clausell, Colvin, Cone, Ellis, Kelley, Kommor, Linton, Orr, Pepper, Reamy, Robison, Seime, and Walker; Assistant Professors Dahlquist, Desai, Ganahl, King, King, Koon, Lerfald, Nash, Peoples, Roberts, and Williams; Research Assistant Professor Sullivan; Research Instructor Marshall; Adjunct Professor Levine; Adjunct Associate Professors Barnette and Elkins; Adjunct Assistant Professors Faris, Hamilton, and Stephen; Adjunct Instructors Harnes, Kent, and Renick; Clinical Professors Ayd, Bateman, Comer, Marquis, Mortell, Rossman, Schein, Weise, and Withersty; Clinical Associate Professors Callahan, Edelstein, Edwards, Goodman, Greenwood, Hibbard, Ingersoll, Kerns, Knapp, Nahemow, Panepinto, Settle, Smith,

Srebalus, Strokes, Tinnin, Ward, and Zarski; Clinical Assistant Professors Allen, Almond, Brailier, Capage, Chambers, Collins, Davis, Donovan, Dunning, Fawley, Fink, Frye, Guy, Hill, Hoback, Hutton, Kovacevich, Lavine, Ledwell, MacCallum, McCluskey, McNeer, Morgan, Naviaux, Neilan, Panepinto, Portz, Puzzuoli, Sine, Smith, Smith, Soule, Stein, Tellers, Venjohn, and Webb; Clinical Instructors Caruso, Fawley, Gantt, and Hunter.

311. *Introductory Psychiatry. (First Year.)* 2 hr. An examination of major clinical syndromes and their biological and environmental concomitants. Introduction to patient care with interviewing techniques and limited patient work-ups under supervision.
321. *Introductory Psychiatry. (Second Year.)* 2 hr. Continuation of B.M. 311 with an in-depth look at more basic science and social science parameters in psychiatry. Additional supervised patient work-ups and presentations.
341. *Clinical Clerkship in Psychiatry. (Third Year.)* CR. Required of third-year medical students. Full-time assignment to the inpatient service in psychiatry and participation in diagnosis and treatment of psychiatric disorders. Emergency Room responsibility.
355. *Behavioral Science and Health Care.* Behavioral science applied to issues related to physical and mental health care. Variety of topics will be considered, such as study of interpersonal roles and games, various cultural "healing" practices, personal and social aspects of illness, family disorganization, and hospitals and related institutions.
399. *Selected Experiences in Behavioral Medicine and Psychiatry. (Fourth Year.)* (See Conjoined Courses.)

Community Medicine (C. Med.)

Professors Pearson (*Chairperson*) and Mou; Clinical Professor Hansbarger; Adjunct Professors Carlton and Crews; Associate Professors Hall and Smith; Clinical Associate Professors Cooley, Greenwood, Hinton, Muckamala, and Wiles; Adjunct Associate Professors Ames, Brough, Fine, and Garson; Assistant Professors Garland, Murray, and Wyant; Adjunct Assistant Professors Attfield, Gamble, Goodwin, Graham, Harper, Patil, Reger, and Sieber; Clinical Instructors Atkins, Lee, and Patton.

311. *Methods of Biostatistics. I.* 3 hr. PR: Math. 3. Basic concepts of statistical models, distributions, probability, random variables, test of hypotheses, confidence intervals, regression, correlation, F and X^2 distributions, analysis of variance with emphasis on methods of biostatistics. (Equiv. to Stat. 311.)
312. *Community Medicine. (Second Year.)* II. 2 hr. Open to limited number of graduate students. PR: Consent. The role of the physician in the prevention of disease and in the examination of health status in a community, with reference to demographic, economic, sociologic, environmental, and occupational factors. The organization of public health and medical care.
322. *Epidemiology and Biostatistics. (First Year.)* II. 2 hr. PR: Consent; medical students only. Epidemiological and statistical analysis of biologic phenomenon as related to medicine. Emphasis on descriptive statistics, analytical epidemiology, statistical inference, measures of association, and evaluation of medical literature.

Conjoined Courses (CC MD)

399. *Selective Experiences in Medicine. (Fourth Year.)* I, II, S. CR. PR: Satisfactory completion of first three years of the medical curriculum. (Graded as S or U.) The selective program offers a wide range of opportunities in the basic sciences, medical specialties, and sub-specialties, and in family medicine. The year is composed of eleven 4-week blocks. Six must be spent at the WVU Medical Center in Morgantown and approved programs at the WVU Medical Center—Charleston Division, WVU School of Medicine. The remainder may be spent at community hospitals in West Virginia, or at university or university-affiliated hospitals out-of-state. Each student plans an individual program, with faculty advice.

Flexibility is permitted. With consent of instructors concerned, the student may, during the year, alter the selective choices. The student must give five weeks' notice before changing an intramural or extramural selection. (See the intramural and extramural brochure, published annually, describing the selective opportunities.)

Family Practice

Professors Traubert (*Chairperson*), Carper, Pearson, and Vazquez; Associate Professor Weisser; Assistant Professors Arbogast, Cleavenger, Nesselroade, and Palmer; Clinical Professors Davis, Hall, Jackson, Jarrett, Simmons, and Tully; Clinical Associate Professors Brooks, Fullmer, Hess, Kellas, Mangus, Newman, Rashid, and Sinclair; Clinical Assistant Professors Clark, Crigger, Dickey, Eckmann, Graham, Hinton, Hofreuter, Lewis, McNeill, Merrifield, Patton, Reed, Ritz, Roberts, Sine, Stemple, and Warren; Clinical Instructors Bergman, Blum, Casto, Conley, Gais, Goodwin, Harris, Hayes, Hokanson, Moss, Nau, Peck, Saver, and Wack; Nurse Clinician Nath; Patient Educator Murray.

399. *Selected Experiences in Family Practice. (Fourth Year.)* (See Conjoined Courses.)

Medicine (Med.)

Professors Waldman (*Chairperson*), M. Albrink, S. Bekheit, A. DiBartolomeo (*Chief, Rheumatology*), E. Flink, A. Jain (*Chief, Cardiology*), J. Jones (*Vice-President—Health Sciences*), L. Lapp (*Chief, Pulmonary Diseases*), D. Z. Morgan, E. Morgan, T. Mou (*Dean, Charleston Division*), R. Ortel, W. Point, P. Raich (*Chief, Hematology/Oncology*), S. Shane, (*Chief, Endocrinology*), J. Stevenson (*Chief, Behavioral Medicine/Psychiatry*), I. Ullrich, W. Welton (*Chief, Dermatology*), and F. Whittier (*Chief, Nephrology*); Associate Professors E. Brestel (*Acting Chief, Allergy & Clinical Immunology*), E. Chideckel, D. Colvin, R. D'Alessandri (*Chief, Comprehensive Medicine*), H. Dedhia, J. Fontana, R. Gaskins (*Chief, Gastroenterology*), M. Georgiev, S. Grubb, R. Khakoo (*Chief, Infectious Diseases*), S. Jubelirer, R. Martin, A. Murgu, W. Orr, P. Robinson, J. Rogers, and J. Shultz (*Chief of Medicine, Wheeling Division*); Assistant Professors H. Abrons, F. Al-Kawas, W. Engel, T. Finucane, J. Graves, J. Gross, T. Hogan, R. Kleinmann, R. Kovach, K. Lempert, M. Mates, A. Morise, A. Moss, M. Mullins, F. Nullet, J. Neely, F. Oliver, E. Petsonk, R. Powers, S. Rector, L. Reimer, J. Riggs, and A. Stern; Adjunct Assistant Professors R. Castellan, T. Hodous, and E. Storey; Instructors N. Blehschmidt and D. Johnson; Adjunct Instructors M. Hodgson and M. Sepulveda; Clinical Professors Emeriti D. Blatchley, C. Johnson, W. Pushkin, and P. Tuckwiller; Clinical Professors M. Avington, G. Brodmerkel, W. Carter, D. Gaziano, D. Gregory, D. Lee, M. Lewis, R. Marshall, W. McMillan, A. Pfister, R. Point, M. Reiter, M. Santer, P. Saville, H. Selinger, J. Skaggs, and S. Warren; Clinical Associate Professors S. Artz, D. Basu, T. Chvasta, B. Gainer, W. Hall, J. Hartman, B. Houston, H. Jackson, D. Jones, C. Koliner, D. Koppel, D. Latos, D. MacCallum, L. McCabe, R. Nestmann, W. Noble, L. Palmer, R. Rectenwald, W. Revercomb, R. Scobbo, L. Thrush, A. Valentine, C. Vasquez, and G. Zaldivar; Clinical Assistant Professors R. Altmeyer, J. Arnett, B. Avashia, J. Byrd, F. Campbell, N. Cassis, C. Cornwell, G. Crotty, P. Cunningham, H. Duncan, D. Farmer, R. Gomez, S. Guy, P. Harbaugh, T. Harper, W. Hijab, C. Horan, T. Horsman, F. Kerns, J. Knost, R. Lewis, S. Masilamani, V. Mazzocco, L. McConnell, B. McJunkin, D. Namay, N. Parsons, M. Patel, J. Preville, G. Rennie, J. Richmond, M. Roidad, R. Romano, R. Scarr, A. Schaeffer, G. Shehl, J. Stone, G. Szego, G. Thakker, C. Warren, and D. Wright; Clinical Instructors S. Bivens, M. Drews, C. Jimenez, R. Layne, A. Lee, R. Lim, M. McCagh, D. Powell, K. Roberts, and P. Treharne.

321. *Physical Diagnosis—Introduction to Medicine. I, II. 5 hr. PR:* Consent. Examination of normal subjects. Clinical concepts and practical experience in history taking and physical examination.

331. *Clinical Clerkship in Medicine. (Third Year.) CR:* Required of third-year medical students. The individual student is assigned responsibility for specific patients from the in-patient service at University Hospital or Charleston Area Medical Center service. The student is an integral part of the team providing diagnostic and

treatment services needed by the patient, under direct supervision of members of the faculty of the department. The student elicits the patient's history, performs physical examinations, and performs or secures indicated laboratory and clinical studies. The student records findings and presents case reports for discussion by members of the faculty during hospital rounds or out-patient clinics. The student attends such staff conferences, etc., as directed by the departments. Clerkship in medicine occupies 12 weeks.

399. *Selected Experiences in Medicine. (Fourth Year.)* CR. (See Conjoined Courses.)

Neurological Surgery

Professors Nugent (*Chairperson*), Dunker, and Kaufman.

399. *Selective Experiences in Neurological Surgery (Fourth Year.)* (See Conjoined Courses.)

Neurology (Neuro.)

Professors Azzaro, Gutmann (*Chairperson*), Martin, and Schochet; Associate Professors Dove and Fakadej; Assistant Professors Brick, Carter, and Riggs; Clinical Professors Heck and Poffenbarger; Clinical Associate Professor Crosby; Clinical Assistant Professors Kettler, Loudon, Morgan, Pratt, and Swisher.

341. *Clinical Clerkship in Neurology. (Third Year.)* CR. Required of third-year students. Basic fundamentals of the neurological evaluation and neurological diseases. Evaluation and treatment of hospitalized patients with neurological illnesses performed under supervision of attending and resident physicians. Conferences and correlative instruction in neuropathology and neuroradiology.
399. *Selected Experiences in Neurology. (Fourth Year.)* CR. (See Conjoined Courses.)

Obstetrics and Gynecology (Obst.)

Professors Butcher, Cox (*Chairperson*), and Patchell; Professor Emeritus Fugo; Associate Professors Ashraf, Durkin, Foss, Granados, and Reamy; Assistant Professors Cruikshank and Sanchez-Ramas; Clinical Professors Behnam, Bonney, Chambers, Giustini, Mairs, and Palladino; Clinical Associate Professors Arceo, Battaglino, Crites, Grubb, Keefer, Maxson, Poole, Stone, Williams, and Withersty; Clinical Assistant Professors Athari, Berry, Clark, Cunningham, Curnutte, Georgiev, Hitt, Jacobson, Percy, Sandhu, and Wanger; Clinical Instructors Fulcher and Jones.

341. *Clinical Clerkship in Obstetrics and Gynecology. (Required of third-year medical students.)* Presents core knowledge of obstetrics and gynecology with small group instructional seminars, ward rounds, didactic teaching sessions and grand rounds conducted by faculty, house officers, visiting faculty, and students. Students are involved with care of all patients, participating in an essential role in patient care. Experience extends to outpatient clinics in all aspects of obstetrics and gynecology.
399. *Selected Experiences in Obstetrics and Gynecology. (Fourth Year.)* An elective subinternship in obstetrics and gynecology with major responsibility for patient care beyond that provided during the third-year curriculum. Students participate in outpatient and inpatient care with delegation of responsibility commensurate with level of training and ability. Supervision is provided by house officers and faculty. Greater participation in surgical procedures is provided, as well as active participation in complicated obstetrical patients.

Ophthalmology (Ophthal.)

Professors Weinstein (*Chairperson*) and Colasanti; Clinical Professors Ryan and Trotter; Associate Professor Raju; Clinical Associate Professors Blaydes, Hamrick, Magee, Nugent, O'Conner, Shepherd, Schwab, and Winkler; Assistant Professors

Linberg, Schwab, and Zimmerman; Clinical Assistant Professors Fiery, Genin, Pangilinan, Park, Rashid, Strauch, Strickland, Tarakji, Toma, and Werblin; Clinical Instructors Linger, McClure, Minardi, and Simbra.

399. *Selected Experiences in Ophthalmology. (Fourth Year.)* (See Conjoined Courses.) Students are presented with the opportunity to acquire clinical skills in ophthalmology including techniques of eye examinations and certain aspects of emergency and elective treatment of eye disorders. There is close supervision by housestaff and members of the full-time ophthalmology faculty. Areas of special faculty interest include glaucoma, corneal diseases, retinal and vitreous diseases, and oculoplastic surgery. There are opportunities for students to participate in basic and clinical research. This experience occupies four weeks and can accommodate a maximum of 2 students and an additional student for a research project.

Orthopedic Surgery (Orth. Surg.)

Professor Radin (Chairperson); Professor Emeritus Pickett; Clinical Professors Davis and Wiley; Associate Professors Blaha and Jones; Clinical Associate Professor Bowers; Assistant Professor Labosky; Clinical Assistant Professor Stoll.

399. *Selected Experiences in Orthopedic Surgery. (Fourth Year.)* (See Conjoined Courses.)

Otolaryngology (Otolaryn.)

Professors Sprinkle (Chairperson), Cody, and Lass; Clinical Professors Hall and Morgan; Clinical Associate Professors Bryant, Cather, Haislip, Hatfield, Jaquiss, Kamerer, Lim, Malone, Mathias, Oliverio, Paine, Spencer, and Whitaker; Assistant Professor Anderson; Clinical Assistant Professors Azar, Bland, Dodd, Holt, Nichols, Seung, Snider, Sporck, Tekieli, Wade, Wilkinson, and Wolfe; Clinical Instructors Barr, Curiel, Lanham, and Wallace.

399. *Selected Experiences in Otolaryngology. (Fourth Year.)* (See Conjoined Courses.)

Pediatrics (Pedia.)

Professors B. Jones (Chairperson), Amato, Fakadej, Klingberg, Neal, and Pomerance; Associate Professors Dove, Gilman, Mullett, Myerberg, Phillips, Wible, and Wuori; Assistant Professors Balian, Howland, Liechty, Moeschler, Previll, and Yeager; Instructor Sutherland; Clinical Professors Hansbarger, Harrison, Jakubec, Potterfield, and Stabins; Clinical Associate Professors Ayoubi, Burech, Holyman-Ayoubi, Israel, Leslie, Lewine, Morris, Shawkey, and Wolf; Clinical Assistant Professors Barron, Kumar, Lambrechts, Lawrence, Rhee, Staab, Szego, and Verma; Clinical Instructors Grijalva, Iskander, Majumder, Mossahebi, and Uy.

331. *Clinical Clerkship in Pediatrics. (Third Year.)* CR. Required of third-year medical students. See description of clinical clerkship under Med. 331. Clerkship in Pediatrics occupies 6 weeks.
370. *Genetics. (Second Year.)* Introduction to the understanding of genetics and heritable diseases in man.
399. *Selected Experiences in Pediatrics. (Fourth Year.)* (See Conjoined Courses.)

Radiology (Radiol.)

Professors Gabriele (Chairperson) and Frich; Associate Professors Goodwin, Lai, Sinha, Slack, Tehranzadeh, and Wald; Assistant Professors Barnett, Liu, Jain, Mace, Roberts, and Willard; Clinical Professors Castro and Kennard; Clinical Associate Professors Barger, Bishop, Goodwin, Hogan, Rogers, Sexton, Szalontay, and Wilder; Clinical Assistant Professors Abdalla, Briley, Cordell, Francke, Gulati, T. Hayes, W. Hayes, Hetzer, Kalinowski, Kim, King, Koh, Kunst, Leef, Marano, Nagarajan, Noble, Patterson, Reddy, Rosenblatt, Smith, Stupar, Tanguilig, Wershba, Wheatly, Williams, Wymer, and Yost.

The radiology staff aids in the instruction of students at all levels of the curriculum. They assist in the teaching of topographic anatomy in the first year. The careful interpretation of roentgenograms is an integral part of each clinical service.

101. *Radiology*. Selected experiences in general radiology.
102. *Neuroradiology*. Review of neuroanatomy with respect to application in neuroradiology. Selected experiences in neuroradiology.
103. *Cardiovascular Radiology*. Review of anatomy and embryology. Selected experiences in central and peripheral vascular radiology.
104. *Radiologic Physics*. Application of physics and mathematics to radiology, nuclear medicine, and radiation therapy.
399. *Selected Experiences in Radiology*. (Fourth Year.) CR (See Conjoined Courses.)

Surgery (Surg.)

Professors Watne (Chairperson), Boland, Hrabovsky, Moran, and Warden; Clinical Professors Bradford (Emeritus), Gilmore, Gray, Hershey (Emeritus), James, McConnell, Mendoza, O'Dell, Trenton, and Walker; Associate Professors Alexander, Durham, Kusminsky, McDowell, Savrin, and Vargish; Clinical Associate Professors Bock, Charbonniez, Dickey, Ghaphery, Glass, Harrison (Emeritus), Kappel, J. Khan, M. Khan, King, Kusminsky, Lawton, Leadbetter, Linger, Looby, MacDonald, Markey, Polack, Rahbar, Schaefer, Shabb, Surmonte, Thorngate, Valasquez, and Voss; Assistant Professors Avis, Bonnitatus, Cunningham, Foshag, Rector, and Veach; Clinical Assistant Professors Aburahma, Al-Haji, Amores, Boustany, Cone, Elliott, Fedde, Figueroa, Fogarty, Foster, Getty, Graber, Grant, Griswold, Heiskell, Johnson, Kim, Kress, Kuban, Lee, McConnell, McLellan, Mantz, Page, Rashid, Reed, Robinson, Sampath, Scheler, Suson, Trammell, Vaghei, and Waluzak; Instructors Bayless, Johnson, Makos, and Swanson; Clinical Instructors Dasari, Neri, Patel, Strauch, and Thrush.

341. *Clinical Clerkship in Surgery*. (Third Year.) CR. Required of third-year medical students. Clinical clerks are assigned responsibility for hospitalized surgical patients under supervision of house staff and attending surgeons. Students are an integral part of the team providing diagnostic and treatment services and are expected to take histories, perform physical examinations, and participate in ward and laboratory procedures. An elective laboratory experience is offered. A course of surgical lectures, designed to outline surgical core curriculum, is given concurrently. The student is expected to attend the daily rounds and conferences arranged by the department.
399. *Selected Experiences in Surgery*. (Fourth Year.) (See Conjoined Courses.)

Urology (Urol.)

Professors Kandzari and Milam (Chairperson); Associate Professor Belis; Clinical Professor Summers; Clinical Associate Professors Lane, McCoy, McCuskey, and Trapp; Clinical Assistant Professors Celis, Durig, Lee, Lindert, Naranjo, Ravitz, Serrato, Shannon, and Stoughton; Clinical Instructors Faddoul, Kassis, and McClellan.

399. *Selective Experiences in Urology*. (Fourth Year.) (See Conjoined Courses.)

Medical Technology

Undergraduate Program

The undergraduate program in medical technology is under the administration of the School of Medicine. Students are admitted into the program leading to a bachelor of science degree after the completion of two years of premedical technology in an accredited college or university. The WVU Medical Technology Program is accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association. Graduates are eligible for certification by the Board of Registry of the American Society of Clinical Pathologists (ASCP) and by the National Certification Agency for Medical Laboratory Personnel (NCA).

The undergraduate curriculum includes the premedical technology program, which is offered in the WVU College of Arts and Sciences and at Potomac State College in Keyser and the medical technology program which is offered in the School of Medicine.

Courses of the first two years (premedical technology) may be taken in any institution of recognized standing that offers the courses required for admission into the medical technology program.

Since the course of study of the last two years is of a professional nature, students must be enrolled in the WVU School of Medicine for this entire period. The work of the junior year (the first year in the medical technology program) includes courses which introduce the student to the medical sciences and courses which prepare the student for the work of the senior year. During the senior year (the second year in the medical technology program) the student receives both didactic instruction and practical experience in the University Hospital laboratories.

Aim and Purposes

The primary aim of the program in medical technology at WVU is to provide a strong undergraduate educational program in medical technology which leads to a bachelor of science degree and which provides an educational background compatible with the demands placed upon the medical technologist by the ongoing technologic revolution in laboratory medicine.

The purposes are: (1) to provide a program in medical technology which meets the academic standards of the University; (2) to provide graduate medical technologists for clinical, public health, and research laboratories; (3) to provide an educational background which enables graduates to prepare for teaching and supervisory positions in medical technology; and (4) to provide an educational background acceptable for graduate work in the medical sciences.

A program for certified medical technologists, who desire to complete requirements for a Bachelor of Science degree is available. (Further information may be obtained by contacting the Medical Technology Programs Office.)

Admission

Application for admission into the junior year (first year in the undergraduate medical technology program) should be made before the beginning of the second semester of the sophomore year in college. *Students at WVU or Potomac State College are not transferred automatically from the*

preprofessional course (first two years) to the professional course (third and fourth years.) Students are selectively admitted to the program for their final two years of work.

Application forms for admission to the professional course are available after December 1 from the office of the Assistant to the Dean of Admissions and Records, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301. These forms should be completed and returned to that office no later than February 1, if the student expects to enter the succeeding first semester classes.

Admission to the third year is on the recommendation of the Admissions Committee to the Dean. A personal interview with the Committee is required.

Admission Requirements

Complete information concerning WVU admission, fees and costs, registration, regulations, etc., may be found in the WVU *Undergraduate Catalog*, College of Arts and Sciences section.

(a) Admission requirements for the first year (premedical technology) are those for the College of Arts and Sciences.

(b) Admission to the third year (first year of the medical technology program) is based upon two years of college work with a total of 62 hours as follows:

English. 6 hours. (Composition and rhetoric.)

Biological Science. 8 hours. (General biology or general zoology.)

Chemistry. 15-16 hours. (Inorganic chemistry, 8 hours; quantitative analysis, 3-4 hours; organic chemistry, 4 hours.) (Transfer students are required to have a complete course in organic chemistry to include aliphatic and aromatic compounds, 8 hours.)

Physics. 8 hours.

Mathematics. 3 hours. (College algebra is the minimal course requirement.) Trigonometry, or higher mathematics, is recommended.

Electives to complete the required hours and to meet WVU Core Curriculum requirements.

Courses such as bacteriology, parasitology, and anatomy should not be taken until after the completion of the sophomore year. A foreign language is recommended for students who plan to do graduate work.

Admission to the Program

1. Applicants should have a minimum grade-point average of 2.5. Applicants with less than a 2.5 grade-point average may be admitted on probation. Applicants with less than a 2.0 grade-point average, either cumulative or in the sciences, will not be admitted.

2. References will be reviewed and considered. A grade-point average of 2.5, or above, does not necessarily assure admission.

3. Applicants admitted to the program must maintain a grade-point average of 2.0 each semester. Students in the Medical Technology Program are expected to conduct themselves in a manner consistent with the ethics of the profession.

Academic Advancement and Standing

Junior Year—(First Year in the Medical Technology Program)

1. Any student having one or more Fs or more than 2 Ds at the end of the junior year will be suspended from the program.

2. Academic due process will be followed when students are suspended from the program.

3. No student with a grade-point average of less than 2.0 will be advanced to the senior year. A student admitted to the senior year with any grade of I (Incomplete) must satisfactorily remove the Incomplete within the following semester, unless permission for an extension is granted by the Senior Year Committee on Academic Standards.

4. No student will be advanced to the senior year unless recommended by the Junior Year Committee on Academic Standards regardless of academic average.

Second Year

1. To successfully complete the senior year, a student must maintain an overall grade-point average of 2.0 for each semester of the senior year.

2. The faculty of the program may suspend or place on probation at anytime a student who is not maintaining a 2.0 grade-point average.

3. If, in the judgment of an instructor, a student demonstrates a marked lack of understanding of course material, even though the student has an acceptable didactic average, a grade of I (Incomplete) will be submitted for that student. It is the student's responsibility to consult with the instructor for removal of an Incomplete.

An Incomplete grade must be removed within the following semester or will be recorded as F unless an extension has been petitioned for by the student and granted by the Senior Year Committee on Academic Standards.

4. Graduation requires completion of all academic work in a satisfactory manner and recommendation of the faculty of the School of Medicine.

5. If in the judgment of the faculty a student's overall performance is not consistent with good patient care or the public interest (regardless of grade-point average), the student may be suspended or required to do remedial work.

6. To suspend a student with an acceptable grade-point average requires appropriate documentation and recommendation from two thirds of the faculty in the program of medical technology.

7. Academic due process will be followed when students are suspended.

8. Any student who withdraws from the program in the senior year for any reason must petition the faculty in medical technology for readmission if such is desired.

CURRICULUM PLAN Premedical Technology

First Year		Second Semester	
First Semester	Hr.		Hr.
Chem. 15—Inorganic	4	Chem. 16—Inorganic	4
Elective*	3	Engl. 1—Comp. & Rhet.	3
Math. 3, 4, or higher	3	Elective*	3
Biol. 1	4	Biol. 2	4
M. Tec. 1**	1	M. Tec. 2**	1
	<u>15</u>		<u>15</u>

Second Year

First Semester	Hr.	Second Semester	Hr.
Chem. 115—Analytical.....	4	Chem. 131—Organic	4
Electives* or M. Tec. 3**	6-7	Electives*	7-9
Phys. 1.....	4	Phys. 2.....	4
Engl. 2—Comp. & Rhet.	<u>3</u>		
	17-18		15-17

*Electives from Group A and Group B are to be selected to meet University Core Curriculum requirements.

**M. Tec. 1 and 2 are not required subjects. It is highly recommended that all students take these courses. M. Tec. 3 may be taken in the sophomore year if electives are completed.

Medical Technology

Third Year

(Medical Technology I)

First Semester	Hr.	Second Semester	Hr.
M. Tec. 100.....	4	Parasitol. 224.....	4
Bioch. 139	5	M. Bio. 223	5
Physi. 241	4	Bioch. 239	4
Elective	<u>3</u>	M. Tec. 101.....	<u>4</u>
	16		17

Fourth Year

(Medical Technology II)

Students receive didactic and clinical instruction in the University Hospital laboratories after completion of the junior year. The course of study begins with the summer session and covers three academic semesters. Students may be required to be "on duty" at irregular hours due to the professional nature of the collegiate program. Likewise, if the student has excessive absences during the senior year, the time loss must be made up at the end of the school year.

Students register for the following courses during the three semesters of study.

	Hr.
M. Tec. 200—Orientation	No Credit
M. Tec. 220—Immunohematology and Blood Banking	2
M. Tec. 221—Immunohematology and Blood Banking Laboratory	5
M. Tec. 230—Clinical Chemistry	2
M. Tec. 231—Clinical Chemistry Laboratory	5
M. Tec. 240—Clinical Hematology	2
M. Tec. 241—Clinical Hematology Laboratory	5
M. Tec. 250—Clinical Microbiology	2
M. Tec. 251—Clinical Microbiology Laboratory	5
M. Tec. 260—Instrumentation	2
M. Tec. 265—Laboratory Management	2
M. Tec. 270—Clinical Microscopy	2
M. Tec. 275—Clinical Histopathology	2
M. Tec. 280—Clinical Immunology	2
M. Tec. 290—Scientific Research and Writing	<u>1-4</u>

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Degree

The degree of Bachelor of Science in Medical Technology is granted to those students who have completed the prescribed curriculum and who have been recommended for the degree by the faculty of the School of Medicine.

Graduate Program

The WVU Medical Technology graduate program prepares graduate medical technologists for positions either as administrators and teachers in medical technology educational programs, or as supervisors in special areas of the clinical laboratory. The primary objective is to assist in development of knowledge in an area in administration, in education, or a special area of interest selected by the student which may be a special medical laboratory science as the specific area applies to laboratory medicine. Specializations include clinical chemistry, clinical microbiology, hematology, and immunohematology. The specific course work requirements for the master of science degree rests with the graduate adviser in the student's specific area of interest.

Graduate Committee: Professors J. Holter, R. Iammarino, B. Love, H. Mengoli, D. Moore, Jr., N. Rodman, and S. Jagannathan.

Admission

Applicants must have a baccalaureate degree in medical technology from an accredited institution or a baccalaureate degree in an allied field and be a certified medical technologist with an acceptable certifying agency.

The area of concentration in medical technology desired by the student is considered in the evaluation of the undergraduate record as follows:

1. Individuals who desire to do special study in clinical chemistry, hematology, or immunohematology must have completed a minimum of 8 hours of physics, 3 hours of mathematics, 4 hours of organic chemistry, and 4 hours of quantitative chemistry on the college level.

2. Individuals who desire to do special study in microbiology must have completed 4 hours of organic chemistry and 16 hours of biological sciences.

3. A minimum of one year's experience in a clinical laboratory is required for admission.

Students will be required to make up deficiencies in the above, as well as other deficiencies deemed necessary by the adviser.

Applicants must have a minimum undergraduate grade-point average of 2.5 (based on A equals 4.0 grade points) for admission.

All applicants to the graduate program are required to take the general aptitude part of the Graduate Record Examination. Results should be sent to the Medical Technology Programs Office, P.O. Box 6302, West Virginia University, Morgantown, WV 26506-6302.

Two letters of reference must be on file in the Medical Technology office. One letter should be from the major adviser in the undergraduate college and another from the immediate supervisor of the applicant's present position. An interview will be requested for all applicants who meet the requirements for admission.

Applicants are selected for admission on the basis of scholastic standing, recommendations, and interest in the field of medical technology. The number of applicants accepted is necessarily limited by the available facilities; and in general, applicants with the most experience are considered first.

Application Procedure

A preliminary application is filed in the Medical Technology office.

Letters of recommendation are sent to the Medical Technology Programs Office.

After approval of the preliminary application, the admission procedure is the same as for other programs in WVU graduate studies.

A personal interview may be required before final admission to the program. This interview will give the graduate student an opportunity to evaluate the program and to determine if the program will offer the educational opportunities which the student desires.

Course of Study

It is expected that the students who enter the graduate program in Medical Technology will have a goal in mind and a special field of interest in medical technology. The program is tailored to the needs of the student as far as possible. A minimum of 36 semester hours of credit including a research problem is required. The student selects a major area of concentration from either education, supervision, or administration, and a minor area from clinical microbiology, clinical chemistry, clinical hematology, or immunohematology.

A minimum of 12 semester hours of course work in education to include the following is required of all students:

(A). The three following courses are required:

Ed. P. 320—Introduction to Research	3 hr.
Ed. P. 330—Advanced Education Measurements	3 hr.
Ed. F. 320—Philosophic Systems and Education	3 hr.

(B). The student selects one of the following:

Hl. Ed. 305—Philosophy of Health Education	3 hr.
Ed. P. 260—Instructional Media and Technology	3 hr.
Ed. P. 360 or 361—Instructional Systems	3 hr.
Ed. P. 450—Psychological Foundations of Learning	3 hr.
Ed. P. 451—Principles of Instruction	3 hr.
Ed. A. 330—Principles of Education Leadership	3 hr.
Ed. A. 331—Principles of Supervision	3 hr.
Ed. F. 300—Sociology of Education	3 hr.

(C). Ed. P. 311 (Statistical Methods), Stat. 311 (Statistical Methods), or C. Med. 311 (Biostatistics), is strongly recommended.

Other courses to complete 36 semester hours are selected by the student (with the help of the adviser) in the area of concentration selected by the student. Students may select courses in departments in schools other than the School of Medicine.

All students must complete a minimum of 18 semester hours in a science related to medical technology including Seminar (3 hr.) and Problem Study (6 hr.).

All students must rotate for orientation purposes through all sections of the University Hospital Clinical Laboratories to include microbiology, hematology, chemistry, immunohematology, and histopathology for a minimum of two days in each laboratory or a total of ten days.

In addition, at the discretion of the student's adviser, other requirements in teaching, supervision, and administration may be necessary.

The adviser works out with the student a plan of study for the entire graduate program. This plan is usually made at the end of the first semester of the student's graduate study. A copy of this "plan of study" is signed by the adviser and student and sent to the Medical Technology Office to be put in the student's file.

Examinations

A final written comprehensive examination in the major and minor interest areas is given approximately one month before the date on which the degree is to be awarded.

An oral defense of the problem is given one month after submission of the Problem Study in its final form to the Graduate Committee.

Requirements for Degree

All requirements for the master of science degree, as outlined in the *WVU Graduate Catalog*, must be fulfilled. These requirements can be fulfilled in three semesters of full-time work, but ordinarily at least four semesters are required for completion of the degree requirements.

Degree candidates must have a 3.0 grade-point average and must have removed all incomplete grades and deficiencies.

All students must complete a problem study (see M. Tec. 497).

Registration Requirement

Owing to the limit on the number of students who can be enrolled in the graduate program in medical technology, all students (part-time and full-time) must enroll each semester to continue in the program.

Medical Technology (M. Tec.)

1. *Orientation to Medical Technology*. I, II. 1 hr. Principles and practices of medical technology and the role of the medical technologist as a member of the health team.
2. *Orientation to Medical Technology*. II. 1 hr. Continuation of work of M. Tec. 1.
3. *Introduction to Medical Laboratory Technology*. I. 3 hr. Introduces the procedures used in the clinical laboratory and demonstrates their relationship to health and disease.
100. *Medical Technology*. I. 4 hr. Gross and microscopic structure of human body as it applies to the practice of medical laboratory technology.
101. *Medical Technology*. II. 4 hr. Continuation of M. Tec. 100.
200. *Orientation*. S. No credit. (For senior students.) Principles and practices of medical technology in relation to the hospital and clinics.
220. *Immunohematology and Blood Banking*. I, II. 2 hr. Lectures on immunohematology and blood banking theory and practice.
221. *Immunohematology and Blood Banking Laboratory*. Arranged. 5 hr. Clinical laboratory practice in blood banking procedures. Emphasis on procedures required for collection and preparation of blood and blood components for transfusion, special techniques, antibody studies, and problem solving.
230. *Clinical Chemistry*. I, II. 2 hr. Lectures on principles of clinical chemistry procedures; their clinical significance and implication in diagnosis.
231. *Clinical Chemistry Laboratory*. Arranged. 5 hr. Practice in the clinical chemistry laboratory.
240. *Clinical Hematology*. I, II. 2 hr. Lectures in hematologic theory and practice.
241. *Clinical Hematology Laboratory*. Arranged. 5 hr. Application of hematological principles to laboratory medicine. Emphasis on routine and specialized procedures, evaluation and problem solving.
250. *Clinical Microbiology*. I, II. 2 hr. Presentation and discussion of current methodology employed in the processing of clinical microbiology specimens, isolation and identification of pathogenic microorganisms, and determination of antimicrobial sensitivities.

251. *Clinical Microbiology Laboratory*. Arranged. 5 hr. Practice in the clinical microbiology laboratory to include isolation and identification of microorganisms; processing of specimens and antibiograms. Includes experiences in pathogenic mycology and parasitology.
260. *Instrumentation*. I, II, S. 2 hr. Principles of clinical laboratory instrumentation for medical technologists including principles of operation, maintenance, and troubleshooting.
265. *Laboratory Management*. I, II. 2 hr. Laboratory organization, economics, ethics, and records.
270. *Clinical Microscopy*. I, II, S. 2 hr. Lectures and laboratory practice in urinalysis, gastric analysis, pregnancy tests, and other procedures.
275. *Clinical Histopathology*. I, II, S. 2 hr. Lectures and laboratory practice in preparation of human tissues and organs for gross and microscopic examination.
280. *Clinical Immunology*. I, II, S. 2 hr. Lectures and laboratory practice in the principles of clinical immunology and their relationship to clinical laboratory technology.
290. *Scientific Research and Writing*. I, II. 1-4 hr. Conducting a scientific research project in medical technology and writing a scientific article for publication. Oral presentations are included.
300. *Seminar*. I, II, S. 1 hr. Seminars include topics in laboratory management and education in medical technology, and timely topics. Minimum of 3 semester hours to include all three topics is required of all graduate students in the medical technology program.
491. *Advanced Study*. I, II, S. 1-6 hr. Investigation in advanced subjects which are not covered in regularly scheduled courses. Study may be independent or through specially scheduled lectures.
497. *Research*. I, II, S. 1-15 hr. Student is required to pursue study on a problem in the student's area of concentration. This study is reported in a thesis-style manuscript. For this study and report, the student registers in M. Tec. 497. Total number of hours earned in M. Tec. 497 is determined by the student's adviser. As many as 9 semester hours may be taken during one semester or, by arrangement with the adviser, credit hours may be taken over several semesters. In the final compilation for degree requirements, only 6 semester hours in M. Tec. 497 will be counted toward fulfillment of the 36 required semester hours for the degree even though the student may have registered for as many as 15 hours in M. Tec. 497.

Division of Physical Therapy

The Division of Physical Therapy, under the auspices of the School of Medicine, offers the final two years of a baccalaureate program leading to a degree in physical therapy.

The first two years of study may be completed in the WVU College of Arts and Sciences, or any other accredited institution which offers courses comparable to the admission requirements of the Division of Physical Therapy. To be eligible for a degree a student must complete the final two years of the curriculum at WVU.

Admission to the third year is based upon 62 or more credit hours of study which satisfies the University Core Curriculum requirements and the prerequisites, or their equivalent, of the Division of Physical Therapy. *Registration in the first two years does not automatically assure the student a place in the junior class. A student will be accepted on a competitive basis and selection will be based on scholastic standing and on those personal characteristics which are desirable in physical therapists.*

The student must satisfactorily complete a period of clinical internship before the awarding of the baccalaureate degree. Expenses incurred during this time (room, board, and transportation) must be borne by the student. A Certificate of Proficiency in Physical Therapy then will be awarded which entitles the graduate to seek membership in the American Physical Therapy Association and to become eligible for state licensure for the practice of physical therapy. A physical therapist can practice professionally only after meeting examination and other licensure requirements in the state where employment is desired.

Admission to the Professional Program

A personal interview with the Admissions Committee is required. *Only those students who have at least a 2.6 grade-point average and a 2.75 science average (on a 4.0 scale) and who will have completed all the prerequisites (with a C or better) of the Division of Physical Therapy by the current spring semester will be interviewed.* In addition to satisfying the prerequisite and Core Curriculum requirements, the applicant to physical therapy must also have: (1) volunteer or work experience in physical therapy and (2) scores on the Allied Health Professions Admission Test (given at major universities) which must be submitted to the Division of Physical Therapy. The Admissions Committee will advise the applicant of the time and place for the interview. Individuals who do not meet the above requirements but who believe extenuating circumstances justify admission may petition the Admissions Committee for an interview. Reasons why the application should receive special consideration should be clearly stated in the petition.

Official enrollment forms are available at the Office of the Assistant to the Dean, Admissions and Records, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301, beginning December 1 of each year. Application forms should be returned no later than March 1 in the year admission is desired.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants who have attended West Virginia schools/colleges or have other state ties will be considered.

Academic Standards

Clinical Education Program

Students must satisfactorily complete the pre-internship clinical education program. During this time students will be expected to defray any and all costs of the program. The Clinical Internship Program is scheduled in the summer of the Senior Year. Before the student is allowed to leave for clinical internships the student must: (1) have completed *all* academic requirements of the program satisfactorily; (2) be of good health and have a full health insurance policy which will be in effect the entire internship period; (3) be prepared to defray the following types of costs: tuition, travel, room and board, and any incidental cost.

Promotions and Dismissals

1. Students admitted to the Physical Therapy Professional Program must register for all prescribed courses for each term.

2. To progress in the professional sequence, a grade of Pass, C or above must be earned in all required courses and in each segment of each course. Students who receive a final grade of D or F in any required course or segment of a course in the physical therapy curriculum will be dismissed from the program and will not be allowed to progress in the professional sequence.

3. A student who is unable to complete a course may, at the discretion of the course instructor, receive a grade of Incomplete (I). The grade of I must be changed to Pass, C or above before the beginning of the next term of the program. Students who have not completed all courses of a term satisfactorily will not be allowed to progress to the next term of the professional sequence and will be dismissed from the program.

4. A student who is performing unsatisfactorily in a course or segment of a course, at the discretion of the course instructor, be allowed to complete additional study or other assignments in order to demonstrate acceptable performance in that course or segment. Such additional study or assignments must be completed and the final course grade recorded before the beginning of the next term of the program.

5. It is the responsibility of the student to present to the course instructor a plan for removal of a grade of Incomplete and/or for demonstration of acceptable performance in a course or segment of a course. The instructor is not obligated to accept the plan proposed by the student.

6. Students must maintain a grade-point average of 2.5 in all required courses of the physical therapy professional program. A student whose grade-point average in the program falls below 2.5 will be dismissed. If the student has no grades of D or F, he/she may petition the Division Committee on Academic Standards to be placed on probation for the following term. If probation is granted, the program grade-point average must be raised to 2.5 or above by the end of the probationary term or the student will be dismissed from the program.

7. The Division of Physical Therapy reserves the right to suspend or dismiss any student who does not perform at an overall level considered satisfactory for patient care.

8. A student may appeal policies enforced by the Division of Physical Therapy through the WVU appeal process as outlined in the *WVU Student Handbook*. A student who has been dismissed from the program may apply to the Admissions Committee of the division for readmission.

Curriculum Plan

This curriculum is designed to satisfy the course requirements for admission to the professional portion of the curriculum in Physical Therapy offered by the School of Medicine. The Core Curriculum requirements must be satisfied, and a total of 62 hours is required for admission to the first professional year. This suggested curriculum plan allows latitude in career choice and is basically compatible with various curricula in the arts and sciences.

First Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Psych. 1**	3	Engl. 1	3
Chem. 15**	4	Chem. 16**	4
Biol. 1**	4	Biol. 2**	1
Electives*	6	Electives*	6
	<u>17</u>		<u>17</u>

Second Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Engl. 2	3	Psych. Elect.**	3
Psych. 141**	3	Phys. 2**	4
Stat. 101**	3	G.P.E. 2	1
Phys. 1**	3	Electives*	9
G.P.E. 1	1		
Electives*	3		
	<u>17</u>		<u>17</u>

Third Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Path. 128	2	Anat. 102	3
Anat. 101	4	Anat. 208	2
Physi. 241	4	Ph. Th. 110	3
Ph. Th. 111	5	Ph. Th. 112	3
Ph. Th. 117	1	Ph. Th. 114	2
		Ph. Th. 116	1
		Ph. Th. 118	3
	<u>16</u>		<u>17</u>

Fourth Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Ph. Th. 271	4	Ph. Th. 270	3
Ph. Th. 273	3	Ph. Th. 272	2
Ph. Th. 275	3	Ph. Th. 274	4
Ph. Th. 277	3	Ph. Th. 276	3
Ph. Th. 279	4	Ph. Th. 278	5
Ph. Th. 281	1	Ph. Th. 282	1
	<u>18</u>		<u>18</u>

Summer

	<i>Hr.</i>
Ph. Th. 290	3-6

*Electives: Students are required to satisfy University Core Curriculum requirements. In addition, these electives are suggested: Nutrn. 71; Biol. 166, 242, 243, 245, 281, 282; Math. 4; Spch. 11, 106, 221.

**Courses required for admission to the Division of Physical Therapy.

Courses of Instruction in Physical Therapy (Ph. Th.)

Professors Burkart (Director) and Petronis; Associate Professors Barnes and Weaver; Assistant Professors Harris and Hart.

(Courses included in the physical therapy curriculum, but not listed here, may be found in the Basic Sciences section of this catalog.)

110. *Functional Anatomy*. II. 3 hr. The musculoskeletal and neuromuscular systems including biomechanics, principles of movement, and analysis of muscle and joint action. Abnormal function due to physical disabilities and pathological disturbances. Students study normal human development and maturation through laboratory sessions involving evaluation and observation of children ranging in age from newborn to 5 years.
111. *Physical Therapy Principles and Physical Agents*. I. 4 hr. PR: Biol. 1, 2; Chem. 15, 16. Lecture-laboratory introduction to physical therapy and orientation to patients. Safety procedures, gait training, and nursing procedures related to physical therapy orientation to theory and application of hydrotherapy, thermotherapy, cryotherapy, actinotherapy, massage, and ultrasound are presented.
112. *Pulmonary Physical Therapy*. II. 3 hr. Correlation of anatomy, physiology, pathology, and treatment of pulmonary conditions. Laboratory in pulmonary evaluations and respiratory treatment procedures. Lectures and case presentations in medicine and surgery concerning chest and thoracic conditions.
114. *Medicine and Neurology*. II. 3 hr. PR: Ph. Th. 111. Lectures in medicine including dermatology, aging, neurology, pharmacology and vascular disorders.
116. *Clinical Education 1*. II. 1 hr. Students perform basic treatment procedures under the supervision of experienced therapists in various clinics. (Graded Pass-Fail only.)
117. *Seminar*. I. 1 hr. PR: Ph. Th. 111. Investigation of selected problems and issues.
118. *Basic Therapeutic Exercise*. II. 3 hr. This course includes the application of principles and techniques of traditional forms of anaerobic and aerobic exercises and goniometry. Isotonic, isometric, and isokinetic exercises are presented with an emphasis on the understanding of human cardiopulmonary functions under the stress of motor activity. Laboratory work in the application of basic exercises and pertinent cardiopulmonary stress tests is included.
270. *Organization and Management*. II. 4 hr. PR. Ph. Th. 275, 281. Basic principles and philosophy of management and the organization with emphasis on styles of leadership, group dynamics, theories of motivation, delegation of responsibility and authority, conflict management, verbal and nonverbal communications, decision analysis and fiscal management.
271. *Electrotherapy and Electromyography*. I. 4 hr. Orientation to theory and application of electrical currents. Laboratory experience in electrical diagnosis and treatment procedures. Basic principles and actual clinical experience with patients offered in electromyography, including nerve conduction and needle insertion studies. Use of electrical stimulation for pain control is also explored.
272. *Professional and Community Relationships*. II. 2 hr. Community health organization, including local, state, and national facets such as Medicare-Medicade and welfare. Planning based on chronic disease epidemiology. Role of physical therapist and other allied health personnel in providing comprehensive health care for chronically ill and geriatric population. Students become involved in care of the home-bound.
273. *Physical Evaluation*. I. 4 hr. PR: Ph. Th. 110, 118. Principles and techniques of performing evaluation testing procedures within the scope of the physical therapist, including manual muscle testing, neurological, ADL, and basic orthopedic evaluations.

274. *Orthopedic Physical Therapy*. II. 3 hr. PR: Ph. Th. 110, 118, 273. Selected lectures and cases in orthopedics. Emphasis on effects and treatment of disease and injury to musculoskeletal and neuromuscular systems. Laboratory practice in orthopedic assessment and procedures, including mobilization techniques.
275. *Professional Literature and Research*. I. 3 hr. Current literature method writing, statistics, and introduction to research methodology. A senior project is required.
276. *Elective Study*. II. 3 hr. Highly skilled techniques used in physical therapy are many and varied. It is beyond the scope of any baccalaureate program to offer such skill to every student in all areas. Therapists are beginning to specialize in certain areas. The student chooses a particular area and develops it to the student's fullest capabilities in the allotted time.
277. *Teaching*. I. 2 hr. Emphasis on the physical therapist fulfilling numerous teaching roles. Students develop skill and techniques in the facilitation of learning, objective writing, A-V utilization and development of evaluation tools for both clinical and didactic settings.
278. *Correlative Rehabilitation*. II. 5 hr. Lecture, case presentations, and laboratory practice concerning the pathology, evaluation, and treatment in the areas of spinal cord injuries, amputations, and burns. Underlying philosophy and principles of comprehensive care of the handicapped. Prosthetics, orthotics, bowel and bladder training, assistive and supportive devices, and wheelchair evaluations.
279. *Advanced Therapeutic Exercise*. I. 4 hr. Correlation of the basic principles acquired from study of gross anatomy, neuroanatomy, pathology, physiology, and functional anatomy with the scientific application of bodily movement. In-depth study of types and desired effects of exercise and methods and techniques primarily concerned with neuromuscular re-education. Laboratory practice consists of application of specific neurophysiological techniques to patients presented with various neuromuscular problems.
281. *Clinical Education 2*. I. 1 hr. Continuation of Ph. Th. 116. The student's participation in treatment programs is increased and enlarged to include basic testing and evaluation procedures. (*Graded Pass-Fail only.*)
282. *Clinical Education 3*. II. 1 hr. Supervised experience in more specialized procedures and testing techniques and patient program design. (*Graded Pass-Fail only.*)
290. *Clinical Education 4*. S. 1-12 hr. Three full-time summer affiliations of six to eight weeks each in a variety of extramural facilities, such as a general hospital, children's facilities, rehabilitation services, and public health. (*Graded Pass-Fail only.*)

School of Nursing

Nursing shares with other disciplines the overall purpose of the health care system in assisting clients to attain, regain, and retain optimal health. Specifically, the purpose of nursing is to assist clients wherever they are, in the performance of those activities contributing to optimal health (or a peaceful death) the clients would normally initiate and perform unaided if they had the necessary strength, knowledge, and motivation.

The practice of nursing embodies a holistic concept of man. This concept is derived from a synthesis of general education and nursing education. General education is that component of learning derived from the whole of knowledge and truth that is not specialized or particular to any field but which supports many fields. It provides the individual with basis for moral grounding, with a knowledge of man and the universe, a basis for understanding of self and others, as well as an appreciation of the past, an understanding of the present, and the process for predicting the future. These primary concepts form a foundation for subsequent learning in the applied discipline of nursing. Nursing education is that process by which the nurse continually synthesizes the conceptual base, while developing and applying one's intellectual, interpersonal, and technical skills in assisting individuals, families, and communities to meet their health needs. This process unifies practice, teaching, and research in the advancement of nursing.

The faculty believes that man is a physiological, psychological, social and spiritual being, capable of rational thought and action. Throughout the life span, one progresses through developmental stages and continually strives to meet basic human needs in a uniquely patterned way. Within the context of socio-cultural backgrounds, individuals perceive and respond to stimuli as integrated wholes. Individuals maintain basic human integrity through the process of dynamic continuous interaction with their internal and external environment.

Man is a member of innumerable systems within a total society which is organized to meet client recognized needs, with the family being the primary system for meeting health needs. Society organizes health care systems to assist the family in meeting the health needs of its members. Each person has the right of access to those resources which will assist in attaining and maintaining optimal states of health.

Health is a dynamic state which constantly fluctuates among varying degrees of wellness and illness. Health states embody physiological, psychological, social, and spiritual dimensions. The optimal state of health which can be attained and maintained is unknown but is influenced by genetic endowment, the environment in which individuals live, and their ability to cope with actual and potential stresses.

The faculty believes learning is a life-long process, enhanced by a climate of personal acceptance of the learner as an integrated being with internal motivation, attributes, dignity, and worth. Learning is a progressive and cumulative experience resulting in changed behavior which becomes useful in subsequent learning situations.

The teaching/learning process includes opportunities for teacher-student interaction in setting goals, selecting and evaluating learning experiences, and in appraising instructional methods and student progress. The process of education takes place in an atmosphere characterized by a democratic spirit in which student and faculty can share learning experiences. This climate encourages the development of intellectual curiosity, systematic inquiry, the

capacity for self-direction, and a sense of commitment to continued learning. Through this educative process, faculty and students continue to develop as informed persons responsible for contributing to the improvement of the profession and society through on-going creative efforts.

Undergraduate education in nursing prepares persons capable of beginning professional nursing practice and provides foundation for graduate education in nursing. Upon completion of the baccalaureate curriculum, the nurse can practice in a variety of settings and with clients of various developmental levels. The graduate uses process skills to maintain, restore, or improve health states of clients, and uses leadership theory to effect change. The baccalaureate graduate uses a conceptual base to evaluate and modify nursing role in relationship to client needs and expectations, and is prepared to support efforts in expanding nursing knowledge.

Graduate education in nursing prepares clinicians capable of leadership in developing and expanding nursing knowledge, skills, and practice competencies in light of societal needs. Preparation at the master's level provides the opportunity for the student to demonstrate self-direction and effective interactions with other health professionals in improving nursing practice and the health care delivery system. The master's graduate is able to provide quality health care in a variety of settings while clarifying and redefining nursing roles.

Admission

To qualify for admission to the School of Nursing basic program a candidate must have completed one year of prescribed courses in an accredited college or university. Applicants are eligible for review by the Admissions Committee after completion of one full semester of course work in an accredited college or university. The prescribed courses include subjects such as: Chemistry, 8 hours; English Composition, 3 hours; Introductory Sociology, 3 hours; Introductory Psychology, 3 hours; Nutrition, 3 hours; Life-Span/Growth and Development, 3 hours; Core subjects, Biology, 4 hours; and/or electives.

A dominant factor in the number of students admitted is the limitation of space. Currently, the maximum number of basic students which can be accommodated is 72. *Since West Virginia University is a state university, and since the number of qualified applicants exceeds the number which can be accommodated, primary consideration is given to applicants from West Virginia. However, up to 10 percent of those admitted to each class may be from out of state.*

Application forms for the School of Nursing are distributed by the Office of Admissions and Records at the Medical Center after December 1. Application for admission to the School of Nursing must be made by February 15 of the year the candidate wishes to be admitted. The application may be presented in person or mailed directly to the Assistant to the Dean of Admissions and Records, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301. An application fee of \$10.00, payable to West Virginia University, must accompany the completed application. The deadline for receipt of transcripts and other required materials is February 15.

The applicant's academic record is the major factor in the decision on admission. The West Virginia resident must have a grade-point average of 2.5 or above, on a scale of 0.0 to 4.0 on all college work attempted, to qualify for consideration. Residents of other states must have an average of 3.2 or above on all college work attempted to be considered. West Virginia applicants

whose grade-point average falls between 2.3 and 2.5 may petition in writing to the Admissions Committee for special consideration. Out-of-state residents with a grade-point average between 3.0 and 3.2 also may petition. Such a petition must be submitted along with the application and must clearly state why the applicant should receive special consideration.

The review of applicants takes approximately two months. The students are notified by mail after review of all applicants is completed. Two weeks after receipt of the letter of acceptance, the student must send a letter stating acceptance of the position to the Assistant to the Dean of Admissions and Records, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301. A \$50.00 advance deposit must accompany the letter. This deposit is applied toward the registration fees for the first semester. The deposit is nonrefundable should the student decide not to enter after formally accepting a place in the class.

Transfer Students

A student from an accredited college or university is eligible for admission by presenting a record of courses comparable to those required in this curriculum. Application for transfer students should be initiated by January 1. Deadline for receipt of transcripts or other required materials is February 15. Apply to: Assistant to the Dean of Admissions and Records, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301.

Registered Nurse Students

The School of Nursing offers graduates of diploma and associate degree nursing programs the opportunity to complete requirements for the baccalaureate degree in nursing at the Morgantown campus, at the Charleston Division of the WVU Medical Center, and by extension at Shepherdstown, Parkersburg, and Beckley. General education credits earned in any accredited college or university may be applied toward the fulfillment of the degree requirements, if the course work is comparable.

Registered Nurse applicants are admitted directly to the School of Nursing. Acceptance and placement in the program is dependent upon the individual's academic record and upon the number of spaces available in the program. The license to practice nursing and a grade-point average of 2.5, or better, on all college work attempted, are required. Registered Nurses whose grade-point average falls below 2.5 may petition in writing to the Committee on Admissions for special consideration.

About 30 hours of general education courses that meet the WVU Core Curriculum and School of Nursing requirements are recommended before enrollment in the first nursing course, Nursing 99, Basic Concepts of Professional Nursing. Courses from the following are appropriate: English 1 and 2, 6 hours; Chemistry, 6-8 hours; Introductory Psychology, 3 hours; Introductory Sociology, 3 hours; Anatomy, 3-4 hours; Physiology, 3-4 hours; Microbiology, 3-4 hours; Pharmacology, 3-4 hours; Nutrition, 3 hours; Biology 3-4 hours. Additional Core A, B, or elective credit is advised before enrolling in Nursing 99. The second semester of chemistry may be waived if the applicant has successfully completed comparable laboratory science courses and meets other science requirements (anatomy, physiology, microbiology, biology, and pharmacology.) Additional courses may be advised based on the judgment of the adviser upon review of the student's background.

All registered nurse students are required to enroll in Nursing 99 (Basic Concepts of Professional Nursing.) The purpose of this course is to facilitate

transition to the baccalaureate curriculum, to assist students with identified learning needs relevant to the curriculum, and to diagnose the students' readiness for advance placement of junior level courses.

Graduates of associate degree programs establish lower-division nursing credit by the transfer of hours. Graduates of diploma programs establish lower-division credit by comprehensive challenge examination of sophomore nursing courses.

Upon successful completion of Nursing 99, and the establishment of lower-division credit, the registered nurse student is eligible for the advanced placement experience. This experience is a conceptual approach to the challenge of junior courses. During this experience a diagnostic and prescriptive analysis of the learning needs of the individual student is made. This diagnosis forms the basis for progression through the remainder of the nursing curricula. Enrollment in junior or senior courses and/or special prescriptive work may follow the advance placement experience. All prerequisites must be met before advancement into senior nursing courses. The senior courses must be taken by enrollment.

Credit for all required nursing courses must be established by enrollment or by advanced placement.

Upon receipt of a letter of acceptance into the program, the student must contact his/her adviser to establish a progression plan. Six weeks before beginning Nursing 99, the student must notify the Office of Admissions and Records that he/she will be beginning the nursing courses.

Requests for application forms for the Morgantown campus and extension sites should be addressed to the Assistant to the Dean of Admissions and Records, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301.

Application forms for the program at Charleston may be obtained from the Student Affairs Coordinator, Charleston Division, WVU Medical Center, 3110 MacCorkle Ave., S.E., Charleston, WV 25304.

Further information about the program may be obtained from Chairperson, Sophomore Academic Unit, School of Nursing, WVU Medical Center, P.O. Box 6304, Morgantown, WV 26506-6304; or Chairperson, Charleston Academic Unit, School of Nursing, Room 2017, WVU Medical Education Building, 3110 MacCorkle Ave., S.E., Charleston, WV 25304.

Academic Standards and Graduation Requirements

The student must: (1) maintain a cumulative grade-point average of 2.0 or better in all work attempted; (2) pass all graded nursing courses with a grade of C or better; and (3) pass all required courses.

A student who fails to meet the requirements listed above must present to the adviser an acceptable plan for meeting the requirements. This plan must be within the policies and standards set by the Committee on Academic Standards.

The degree of Bachelor of Science in Nursing (B.S.N) is conferred upon completion of a minimum of 127 hours.

Fees, Expenses, Housing, Transportation

Students registering pay the fees shown in the WVU Medical Center fees charts, plus special fees and deposits as required. Fees are subject to change without notice.

Expenses of students attending WVU vary widely according to their course of study and their individual tastes.

Students are expected to provide their own equipment and instruments for the clinical courses.

Information concerning financial assistance and application forms may be obtained by visiting or writing the Financial Aid Office, Basic Sciences Building, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301. Telephone 304/293-3706.

The University Housing and Residence Life Office, G-18 Towers (phone 304/293-3621), provides information concerning University-owned housing. The Student Life Office in Moore Hall provides information concerning privately owned, off-campus housing, (phone 304/293-5611).

Some clinical experiences require the student to travel in a multi-county area. Each student is responsible for providing her/his own transportation.

Curriculum

The conceptual framework of the WVU School of Nursing is based on four concepts. These are man, health, environment, and process.

Man assumes many roles in life. In nursing these roles are specific yet interdependent. *Man*-role is conceived as either that of the man-nurse or the man-client. When man in the client role and man in the nurse role come together for the purpose of the nurse assisting the client to achieve *health*, the *process* becomes operational. *Process* is the means by which the goal is attained. The process between man-nurse and man-client takes place in and influences a certain *environment*. On the other hand, the environment influences process, man-nurse, man-client, and health in many ways.

Thus, the curriculum design for both undergraduate and graduate programs is derived from basic beliefs about the major concepts and from beliefs about learning and holism. In essence, a framework is initially provided to identify the core concepts and their relationships. This framework becomes the student's vehicle or mechanism through which added knowledge can be organized and syntheized, generating new ideas.

SUGGESTED PLAN OF PROGRESSION

FIRST YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Chem. 11	4	Chem. 12	4
Psych. 1	3	Engl. 1	3
Soc. & A. 1	3	Biol. 2	4
Nutr. 71	3	Psych. 141	3
Core A	3	Core A	3
	<hr/> 16		<hr/> 17

SECOND YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Nsg. 80	4	Nsg. 75	2
Nsg. 81	2	Nsg. 82	4
Anat. 101	4	Nsg. 83	2
M. Bio. 26	4	Physi. 141	4
Engl. 2	3	Pcol. 160	3
	<hr/> 17		<hr/> 15
Nsg. 99 (R.N.'s only)	6		

SUMMER BETWEEN SECOND AND THIRD YEAR

	Hr.
Nsg. 180	3
Nsg. 181	<u>3</u>
(Basic Students only)	6

THIRD YEAR

First Semester	Hr.	Second Semester	Hr.
Nsg. 182	4	Nsg. 184	4
Nsg. 183	4	Nsg. 185	4
Nsg. 175 or Soc. & A. 211	2-3	Nsg. 175 or Soc. & A. 211	2-3
Core A/elective	<u>3-6</u>	Core A/elective	<u>3-6</u>
	13-17		13-17

(Advanced standing experience of all junior level
available for the RN's) 18 credit hours

FOURTH YEAR

First Semester	Hr.	Second Semester	Hr.
Nsg. 275	3	Nsg. 284	3
Nsg. 280	3	Nsg. 285	3
Nsg. 281	1	Nsg. 286	3
Nsg. 282	2	Core A/elective	3-6
Nsg. 283	2		
Core A/elective	<u>3-6</u>		
	14-17		12-15

Master of Science in Nursing (M.S.N.)

The School of Nursing offers a program of study leading to the Master of Science in Nursing (M.S.N.) degree to prepare the professional nurse for the role of nurse clinician in the advanced practice of nursing in primary health care. The program, which is administered by the Graduate Academic Unit, is offered at the University main campus in Morgantown and through regional extension, presently serving Beckley, Charleston, Huntington, and surrounding areas.

Designed in an integrative fashion, this non-traditional graduate program offers a curriculum model which allows students to enroll on a part-time or full-time basis. Throughout the curriculum, students are guided in the processes of self-development aimed at pursuing excellence in scholarly and professional endeavors. The program allows flexibility within the basic curricular structure through the individualization of learning experiences, electives, thesis, and the opportunity to investigate an area of interest in advanced study.

The pattern of duration for the individual student study plan is determined in consultation with a faculty adviser and is based upon the student's background and goals. The program can be completed in four semesters of full-time study at the Morgantown campus, averaging a load of 9-12 credit hours per semester.

The program is accredited by the National League for Nursing.

Admission Requirements

The applicant must:

1. Meet the admission requirements of graduate education at West Virginia University.

2. Have completed a baccalaureate program in nursing which is accredited by the National League for Nursing (NLN). Applicants with a baccalaureate degree from nursing programs without NLN accreditation will be considered on an individual basis.

3. Have completed a course in introductory statistics (3 credit hours).

4. Provide the following:

a. Statement of philosophy of nursing and professional goals.

b. Letter of recommendation from each of the following: Head of undergraduate nursing program, employer, and a colleague.

c. Evidence of a current professional nursing licensure in at least one state.

When all information has been received, the applicant participates in a personal interview with a graduate faculty member for the purpose of validating admission materials, clarifying admission criteria, projecting a study progression plan, and initial advising. Six parameters are used for review of applicants: (1) academic achievement; (2) residency/employment; (3) professional experience; (4) biographical goal; (5) ethnicity/multicultural experiences; and (6) recommendations.

One admitted, students are assigned to a faculty adviser who guides students in curriculum and academic matters. Enrollment in nursing courses is based upon readiness, availability of space and other essential resources.

The application process should be completed by January 1 for summer (May) enrollment; and March 1 and August 1 for fall and spring enrollment, respectively. Class sizes are limited, based on available faculty resources and space.

Application Process

Applicants need to complete the following steps in order to be considered for admission:

1. Complete two application forms as indicated and return to the appropriate offices to avoid unnecessary delay in the review process.

a. Application for admission to Graduate Studies—To be returned with a \$20.00 nonrefundable service fee to: Office of Admissions and Records, West Virginia University, P.O. Box 6009, Morgantown, WV 26506-6009.

b. Application for admission to the Master of Science in Nursing Program—To be returned to: Chairperson, Graduate Academic Unit, WVU School of Nursing, P.O. Box 6304, Morgantown, WV 26506-6304.

2. Request an official transcript of records from each college or university attended. Transcripts and records should be sent directly to the WVU Office of Admissions and Records.

3. Send three recommendation letters directly to the Chairperson of the School of Nursing Graduate Academic Unit.

4. Participate in an interview with a faculty member teaching in the graduate program. The interview is for the purpose of verifying application materials, reviewing admission criteria, identifying deficiencies and transferable credits and, where possible, projecting a tentative plan of study. It is expected that the applicant will take an active role in the interview process to be informed about the basis for the admission criteria.

Degree Requirements

- 1. Completion of 42 semester credit hours. Minimum of 33 hours in nursing and 9 hours of non-nursing electives.
- 2. Completion of a Thesis (6 hours).
- 3. Achievement of an overall academic average of at least a B in all work attempted in the master's program. A grade of C in two or more nursing courses will require a faculty review of student's program progression.
- 4. Removal of all conditions, deficiencies, and incomplete grades. Students are expected to register for courses with letter grades (A, B, C). Electives may be opted for Satisfactory (S) or Unsatisfactory (U) grades—subject to the approval of the adviser.

Credit hours for courses in which the grade is lower than C will not count toward satisfying graduate degree requirements.

Students are expected to register for courses with letter grades (A, B, C), with the exception of electives which the student may opt to take with Satisfactory (S) or Unsatisfactory (U) grades, subject to the approval of the adviser.

M.S.N. Curriculum

<i>Nursing Theory, Practice, and Research (30-33 hours)</i>	<i>Hr.</i>
Nsg. 300—Advanced Nursing: Primary Health Care 1	3
Nsg. 301—Advanced Nursing: Primary Health Care 2	3
Nsg. 302—Advanced Nursing: Primary Health Care 3	3
Nsg. 310—Advanced Nursing Practice 1	3
Nsg. 311—Advanced Nursing Practice 2	3
Nsg. 312—Advanced Nursing Practice 3	3
Nsg. 370—Theories in Nursing	3
Nsg. 373—Research Process and Methods in Nursing	3
Nsg. 400—Advanced Nursing Practice 4	3
Nsg. 497—Research (Master's Thesis)	6
	<u>33</u>

<i>Electives (9 hours)</i>	
Cognates (Non-nursing)	9
Total	<u>42</u>

<i>Sample Progression Plan (Full-Time Study)</i>							
<i>Semester I</i>	<i>Hr.</i>	<i>Semester II</i>	<i>Hr.</i>	<i>Semester III</i>	<i>Hr.</i>	<i>Semester IV</i>	<i>Hr.</i>
Nsg. 300	3	Nsg. 301	3	Nsg. 302	3	Nsg. 400	3
Nsg. 310	3	Nsg. 311	3	Nsg. 312	3	Nsg. 497	3
Nsg. 370	3	Nsg. 373	3	Nsg. 497	3	Elective	3
		Elective	3	Elective	3		
	<u>9</u>		<u>12</u>		<u>12</u>		<u>9</u>

TOTAL: 42 hours

Courses of Instruction in Nursing (Nsg.)
(For Nursing Majors Only)

- 75. *Issues of Nursing* 1. I, II. 2 hr. PR: Sophomore standing or consent. Overview of past, present, and future issues of the nursing profession. Emphasizes a historical review of the nursing literature.

80. *Concepts of Nursing 1. I.* 4 hr. PR: Sophomore standing or consent. Conc.: Nsg. 81. Introduces concepts, principles, and theories of nursing practice in relation to the health promotion with individuals and their families. Includes intellectual and interpersonal arts and psychomotor skills basic to nursing practice.
81. *Practicum 1. I.* 2 hr. PR: Sophomore standing or consent. Conc.: Nsg. 80. Selected experiences for the application of the basic concepts necessary for health promotion. Includes experience with individuals of all ages and their families. (Graded as Pass-Fail.)
82. *Concepts of Nursing 2. II.* 4 hr. PR: Nsg. 80, 81 or consent. Conc.: Nsg. 83. Concepts, principles, and theories of nursing practice with individuals experiencing minor deviations from wellness. Includes adapting mechanism necessary to regain health.
83. *Practicum 2. II.* 2 hr. PR: Nsg. 80, 81 or consent. Conc.: Nsg. 82. Selected experiences in which the nurse assists clients to cope with wellness and minor deviations from wellness. Includes experience with individuals of all ages and their families. (Graded as Pass-Fail.)
99. *Basic Concepts of Professional Nursing. I, II, S.* 6 hr. PR: West Virginia nursing licensure or consent. Focuses on man (family) related to life cycle, stress adaptation, deviations from wellness. Clinical application of nursing theory stresses interrelatedness of health problems, scientific inquiry, and interpersonal processes. Students are assisted to identify their career goals.
175. *Issues of Nursing 2. I, II.* 2 hr. PR: Nsg. 75 or consent. Issues of nursing practice. Emphasizes related theories and research.
180. *Concepts of Nursing 3. S.* 3 hr. PR: Junior standing or consent. Conc.: Nsg. 181. Concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and moderate deviations from wellness. Builds on past intellectual and interpersonal arts and psychomotor skills.
181. *Practicum 3. S.* 3 hr. PR: Junior standing or consent. Conc.: Nsg. 180. Selected experiences for the application of concepts of nursing practice with individuals and families experiencing acute health care needs and moderate deviations from wellness. Includes experience with individuals of all ages. Emphasizes the practice of psychomotor skills. (Graded as Pass-Fail.)
182. *Concepts of Nursing 4. I.* 4 hr. PR: Nsg. 180, 181 or consent. Conc.: Nsg. 183. Concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and major deviations from wellness.
183. *Practicum 4. I.* 4 hr. PR: Nsg. 180, 181 or consent. Conc.: Nsg. 182. Selected experiences for the application of concepts of nursing practice with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages. (Graded as Pass-Fail.)
184. *Concepts of Nursing 5. II.* 4 hr. PR: Nsg. 182, 183 or consent. Conc.: Nsg. 185. Continuation of concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages.
185. *Practicum 5. II.* 4 hr. PR: Nsg. 182, 183 or consent. Conc.: Nsg. 184. Selected experiences for application of concepts of nursing practice with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages. Emphasizes nursing care problems of increased complexity. (Graded as Pass-Fail.)
275. *Issues of Nursing 3. I.* 3 hr. PR: Senior standing or consent. Analysis of professional nursing issues as they relate to a personal and professional philosophy of nursing.

280. *Concepts of Nursing 6. I.* 3 hr. PR: Nsg. 180, 182, 184 or consent. Conc.: Nsg. 281. Concepts, principles, and theories of professional nursing practice associated with individuals and/or families who are experiencing a critical, isolated health problem. Includes individuals of all ages. Introduces specialized psychomotor skills.
281. *Practicum 6. I.* 1 hr. PR: Senior standing or consent. Conc.: Nsg. 280. Selected experiences for the application of concepts of nursing practice with individuals and/or families experiencing a critical, isolated health problem. Includes experience with individuals of all ages. Emphasizes the practice of specialized psychomotor skills. (*Graded as Pass-Fail.*)
282. *Concepts of Nursing 7. I.* 2 hr. PR: Senior standing or consent. Conc.: Nsg. 283. Concepts, principles, and theories of professional nursing practice associated with individuals and/or families within the health care delivery system. Includes individuals of all ages.
283. *Practicum 7. I.* 2 hr. PR: Senior standing or consent. Conc.: Nsg. 282. Selected experiences in the application of concepts of nursing practice with individuals and/or families within the health care delivery system. Emphasizes a comprehensive study of a health concern in a defined population. (*Graded as Pass-Fail.*)
284. *Concepts of Nursing 8. II.* 3 hr. PR: Nsg. 275, 280, 281, 282, 283 or consent. Conc.: Nsg. 285, 286. Examines concepts influencing the professional nursing role within health-care delivery systems with emphasis on the synthesis of one's personal and professional philosophy of nursing.
285. *Practicum 8. II.* 3 hr. Conc.: Nsg. 284. Selected experiences in the practice of professional nursing in primary and secondary settings. Focus is on the incorporation of processes in the care of clients and the analysis of health care. (*Graded as Pass-Fail.*)
286. *Practicum 9. II.* 3 hr. Conc.: Nsg. 284. Selected experiences in the practice of professional nursing in acute or critical-care settings. Focus is on the incorporation of processes in the care of clients and the analysis of health care. (*Graded as Pass-Fail.*)
300. *Advanced Nursing: Primary Health Care 1. I, II, S.* 3 hr. PR or Conc.: Nsg. 370. Analysis and synthesis of concepts in nursing and related sciences relevant to the development of a conceptual framework for nursing in primary health care.
301. *Advanced Nursing: Primary Health Care 2. I, II, S.* 3 hr. PR: Nsg. 310. Development of a conceptual model for nursing with emphasis on developing strategies to promote client health.
302. *Advanced Nursing: Primary Health Care 3. I, II, S.* 3 hr. PR: Nsg. 311. Further development and/or refinement of the conceptual model for nursing with specific emphasis on planned change strategies and how these strategies impact health.
310. *Advanced Nursing Practice 1. I.* 3 hr. Conc.: Nsg. 300. Advanced nursing practice focusing on applicability of concepts in students' developing conceptual framework.
311. *Advanced Nursing Practice 2. II, S.* 3 hr. Conc.: Nsg. 301. Advanced nursing practice focusing on development and application of nursing strategies within students' conceptual model.
312. *Advanced Nursing Practice 3. I, S.* 3 hr. Conc.: Nsg. 302. Advanced nursing practice focusing on application and testing of students' conceptual model, identification of a health problem area within the practice setting, and preparation of a planned change strategy.
370. *Theories in Nursing. I, S.* 3 hr. PR: Graduate standing; consent. Introduction to the structure and function of extant theories in nursing as a basis for developing a conceptual framework for nursing.
373. *Research Process and Methods in Nursing. II, S.* 3 hr. PR: Nsg. 310, 370. Study of the research process and methods for incorporation into students' conceptual model, practice and research in nursing.

400. *Advanced Nursing Practice* 4. I, II. 3 hr. PR: Nsg. 312. Collaborative practice focusing on the evaluation and modification of students' conceptual model for nursing and implementation of a planned change strategy.
491. *Advanced Study*. I, II. 1-3 hr. PR: Graduate standing; consent. In-depth study of topics related to current issues in primary health care. Study may be independent or through specially scheduled seminars.
497. *Research*. I, II, S. 6 hr. PR: Nsg. 373; PR or Conc.: Nsg. 312; consent. Refinement and implementation of research proposal to meet requirements for the master's thesis.

School of Pharmacy

Pharmacy was first offered at West Virginia University as a department in the School of Medicine, beginning in 1914. It was changed to the College of Pharmacy in 1936 and to the School of Pharmacy in 1958. In 1960, the School of Pharmacy changed from a four-year to a five-year program—including two years of pre-pharmacy.

The objective of the School of Pharmacy is to educate practitioners for current and future roles in the profession of pharmacy.

The pharmacy curriculum consists of three years of professional study preceded by a minimum of two years of study in an accredited college of arts and sciences.

The curriculum is designed to provide the student with the scientific and technical knowledge and communication skills required to practice the profession and to inculcate in the student a concept of the pharmacist's professional responsibilities as a health science practitioner and as a guardian of the public health.

Most pharmacy graduates enter practice in community or institutional pharmacies; however, many positions are also available in various government agencies, professional organizations, and industry. Pharmacists are eligible for commissions in the armed forces and the U.S. Public Health Service.

Graduates also may prepare for careers in teaching and research by entering graduate schools for specialization in pharmacy, pharmaceuticals, pharmacognosy, pharmaceutical chemistry, pharmacy administration, and pharmacology and toxicology. The pharmaceutical industry provides opportunities in a variety of capacities in promotion, distribution, production, and research.

Accreditation

The School of Pharmacy is accredited by the American Council on Pharmaceutical Education. The council is composed of members from American Pharmaceutical Association, National Association of Boards of Pharmacy, American Association of Colleges of Pharmacy, and American Council on Education.

The School of Pharmacy holds membership in the American Association of Colleges of Pharmacy whose objective is to promote the interests of pharmaceutical education. All institutional members must maintain certain requirements for entrance and graduation.

Legal Requirements and Reciprocity

To qualify for examination for licensure by the West Virginia Board of Pharmacy, the applicant must be a citizen, not less than 21 years of age, and of good moral character. Further, the applicant must be a graduate of an

accredited school of pharmacy, and must meet the internship requirements set by the West Virginia Board of Pharmacy.

Interns must be registered with the West Virginia Board of Pharmacy and must be enrolled in or a graduate of an accredited school of pharmacy to gain experience acceptable for the internship requirement. Details may be obtained from the Office of the Dean.

School of Pharmacy graduates are eligible for examination to practice pharmacy in any state. Graduates who successfully pass the West Virginia Board of Pharmacy examination are privileged to reciprocate, without further examination, with forty-seven other states, and with the District of Columbia and Puerto Rico, provided they meet the requirements of these states.

Admission

All students seeking enrollment in the School of Pharmacy must comply with regulations appearing in this and the *WVU Undergraduate Catalog*.

Students preparing for the study of pharmacy may satisfy the course work requirements for entrance into the School of Pharmacy by majoring in any arts and sciences subject and including in their course selections the following, or their equivalents:

English Composition	6 hr.	Chemistry, General	8 hr.
College Algebra*	3 hr.	Chemistry, Organic	8 hr.
Trigonometry*	3 hr.	Physics	8 hr.
Principles of Economics	6 hr.	Electives**	18 hr.
Biology, General	8 hr.		
		TOTAL	68 hr.

*Pre-calculus or calculus (4 hr.) may be substituted for these two courses.

**Electives must be designed to satisfy University Core Curriculum requirements. Electives: Core Group A—12 hr.; Core Group B—6 hr.

University Core Curriculum Group A includes selected courses in: Art, English (exclusive of English 1 and 2), Humanities, Languages, Multidisciplinary Studies, Music, Philosophy, Religious Studies, Speech Communication, and Theatre.

University Core Curriculum Group B includes selected courses in: Education Foundations, Forestry, Geography, History, Mineral and Energy Resources, Multidisciplinary Studies, Political Science, Psychology, Social Science, Sociology and Anthropology, Technology Education, and Economics (for Pharmacy students, Group B Economics would include Economics electives beyond the 6-hr. required courses).

Because limited openings are available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

Admissions are competitive and are based on cumulative academic average and science average achieved in all prior college courses, a personal interview, recommendations, and results of the Pharmacy College Admission Test (PCAT). The School of Pharmacy usually will not accept a D grade in a required course.

For admission to the School of Pharmacy, formal application should be made to the Committee on Admissions of the School of Pharmacy as early as possible after January 1, but by April 1, preceding the fall term (first semester) in which the student is seeking enrollment. Formal applications received after the April 1 deadline will be considered only when vacancies exist.

Applicants should write to Office of Admissions and Records, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301, which will furnish official blanks on which formal application must be made.

A \$10.00 application fee is required and must accompany the application.

Each applicant who is recommended for acceptance is expected to deposit \$50.00 before the applicant's name is entered upon the official list of those accepted by the School of Pharmacy. If the applicant enrolls, this sum is applied to the first-semester tuition. If the applicant fails to enroll, this deposit is forfeited.

It is required that during the first semester of the first year all students must complete certain prescribed immunization and diagnostic procedures.

Complete information may be obtained from the Dean of the School of Pharmacy, P.O. Box 6303, Morgantown, WV 26506-6303; or from the Office of Admissions and Records, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301.

Pharmacy College Admission Test

Completion of the Pharmacy College Admission Test is a requirement for admission. It is strongly recommended that the student take this test in the fall before making application for admission. Information concerning time and place of the test can be obtained from a pre-pharmacy adviser in the School of Pharmacy, or by writing: Pharmacy College Admission Test, The Psychological Corporation, 7800 Old Oak Blvd., Cleveland, OH 44130.

Personal Interview

A personal interview with the Committee on Admissions will be required. Interviews will be held at the WVU Medical Center and will be arranged insofar as possible to suit the convenience of the applicant. Interviews are scheduled during February, March, and April. Only applicants with a cumulative and science average of 2.5 or above will be called for an interview, unless openings are available.

Admission to Advanced Standing

If space is available, students from other accredited schools of pharmacy may be admitted provided they meet the course requirements of the WVU School of Pharmacy, have a 2.5 grade-point average, and are eligible for readmission for the degree in pharmacy in the school previously attended. D grades in professional courses will not be transferred.

Student Status and Advancement

The determination of student status is in the hands of the Committee on Academic Standards of the School of Pharmacy. All committee actions are subject to approval of the Dean. In the School of Pharmacy, all grades except W, WU, P, and X are used to determine the cumulative grade-point average. The advancement of students in the School of Pharmacy is based on satisfactory academic performance, as well as the completion of course requirements.

To be in good standing, a student must maintain at least a 2.0 cumulative average in professional subjects. An F grade or failure to attain a 2.0 average in any semester will result in placing a student on probation. To be removed from probation, a student shall: (a) remove all academic deficiencies; (b) attain not less than a 2.0 cumulative grade-point average; and (c) demonstrate significant improvement in academic performance earning a C grade or better in all course work prescribed by the Committee on Academic Standards. Failure to be removed from probation in the subsequent semester may be

deemed sufficient reason for suspension or the withdrawing of advancement. Furthermore, any student on probation at the end of the second professional year must petition the Committee on Academic Standards for advancement to the third professional year. Any student on probation at the beginning of the second semester second professional year, or who qualifies for probation at the end of that semester, shall not be eligible for summer clerkships.

Any first-professional-year student deficient 7 or more grade points shall fail promotion and shall repeat the year. Any second-professional-year student deficient 4 or more grade points shall fail promotion and shall repeat the year. Any student deficient 12 or more grade points, or who fails promotion a second time, shall be suspended.

Students on probation are not eligible to hold office in student organizations or to participate in activities which make demands on time necessary to maintain satisfactory academic performance. Students are expected to be present for all of their classes and laboratories. Full-time students in the School of Pharmacy may not register for less than 14 hours nor more than 20 hours during any semester without the approval of the Committee on Academic Standards.

Special Requirements

All students satisfactorily completing the second professional year must obtain professional liability insurance before being allowed to begin the third professional year. Professional liability insurance will be continuously maintained in effect through completion of the third professional year. Failure to have the liability insurance will result in the student's not being allowed to enroll in required courses.

Students in the first professional year will be required to obtain an Intern Certificate from the West Virginia Board of Pharmacy, and to maintain it through completion of the third professional year.

During the second professional year, students will be informed of their assigned schedules for the third professional year's required clinical clerkships. Students will also be informed as to the West Virginia community or communities in which they will reside during these clerkships, the names of their preceptors, and the dates of attendance. The School of Pharmacy will provide the student opportunity to participate in choice of assignments, but it reserves ultimate responsibility in making such assignments. Each student will be expected to bear any financial burdens (i.e., living, moving, travel, etc.) incurred in satisfying clerkship requirements. A maximum of 24 students will be assigned to the clerkship session during any term (e.g., summer, fall, or spring). Only 8 students will be assigned to each required clerkship during any given four-week period. In the event of over-subscription to any clerkship period or clerkship rotation, priority will be assigned on the basis of grade-point average attained while a full-time student in the School of Pharmacy.

Requirements for Degree

The degree of Bachelor of Science in Pharmacy (B.S.Pharm.) is conferred upon any student who complies with the general regulations of WVU concerning degrees, satisfies all entrance and School of Pharmacy requirements, and completes the curriculum of the School of Pharmacy.

To be eligible for graduation, a student must have an average of C (2.0) for all work in the professional curriculum.

Course Changes

A student who desires to obtain credit for a course in place of any course prescribed in the student's curriculum must obtain permission of such change from the Dean.

Curriculum

SCHOOL OF PHARMACY
CURRICULUM PLAN

First Professional Year

First Semester	Hr.	Second Semester	Hr.
Bioch. 139—Gen. Biochem.	4	M. Bio. 220—Microbiology	4
Anat. 101—Hum. Anat.	3	Phar. 204—Concepts. Phar. 2	4
Physi. 241—Mech. Body Funct.	4	Phar. 207—Intro. to Drug Lit.	1
Phar. 200—Prep. Phar. Pract.	3	Phar. 228—Phar. Pract. Leg. Env.	4
Phar. 201—Concepts Phar. 1	3	Phar. 241—Fund. Pathophys.	3
Phar. 227—Phar. Soc. Env.	2	Phar. 270—Fund. Med. Chem. 1	3
	19		19

Second Professional Year

First Semester	Hr.	Second Semester	Hr.
Pcol. 243—Pharmacology	4	Phar. 205—Phar. Pract.	4
Phar. 203—Concepts Pceut. 3	4	Phar. 230—Prof. Asp. Phar.	3
Phar. 229—Man, Asp. Phar. Pract.	3	Phar. 243—Chem. Immu. Agts.	3
Phar. 245—Pharmacotherapeutics 1 ..	3	Phar. 246—Pharmacotherapeutics 2 ..	3
Phar. 271—Fund. Med. Chem. 2	2	Phar. 260—Princ. Med.	2
Electives	1-3	Electives	1-4
	17-19		16-19

Third Professional Year

First Session (Summer)	Hr.	Second Session (First Sem.)	Hr.
Phar. 250—Amb. Care Clerkship	4	Phar. 250, 251, 252, and 253	
Phar. 251—Med. Team Clerkship	4	(See First Session)	16
Phar. 252—Inst. Care Clerkship	4	or	
Phar. 253—Elect. Clerkship	4	Electives	16
	—	or	
	16	Free Session	

or
Free Session

Third Session (Second Sem.)	Hr.
Phar. 250, 251, 252, and 253	16
or	
Electives	16
or	
Free Session	

Graduate Programs

Pharmaceutical Sciences

The School of Pharmacy offers graduate programs in the pharmaceutical sciences aimed at educating competent researchers and teachers. Programs for the degree of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) provide flexible, research-oriented curricula designed to develop the interests, capabilities, and potential of the individual student.

Admission

Applicants for admission must satisfy the general requirements for admission as graduate students. The applicant must possess a baccalaureate degree with a background in a suitable area of study, an overall grade-point average of at least 2.75, and the aptitude and interest for graduate work in the pharmaceutical sciences in order to be admitted with regular student status. Applicants not meeting criteria for admission with regular student status will be considered for admission under alternate admission classifications as explained in Part 2 of the *Graduate Catalog*. In addition, graduate record examination scores in the verbal, quantitative, and analytical portions of the examinations are required from all students, and TOEFL, or similar scores, are required of foreign students.

Academic Standards

No credits are acceptable toward a graduate degree with a grade lower than a C.

The graduate student must have a cumulative grade-point average of at least 3.0 in all graduate courses to qualify for the degrees.

Master of Science (M.S.)

The School of Pharmacy offers programs of graduate study leading to the degree of Master of Science (M.S.) in the pharmaceutical sciences. Students may specialize in pharmacy administration, pharmacology and toxicology, pharmacognosy, pharmaceutical chemistry, industrial pharmacy, medicinal chemistry, pharmaceuticals, biopharmaceuticals, and pharmacokinetics.

Requirements for M.S. Degree

To be eligible for the M.S. degree, the student must complete a minimum of 30 hours of graduate credit, of which no more than 6 hours may be for research and thesis.

Upon completion of the course work and research requirements, and after submission of the thesis, an oral examination will be administered by the appointed examination committee.

Doctor of Philosophy (Ph.D.)

The School of Pharmacy offers programs of study leading to the Doctor of Philosophy (Ph.D.) degree in the pharmaceutical sciences. Specialty areas of study include medicinal chemistry, pharmaceuticals, biopharmaceuticals/pharmacokinetics, and behavioral and administrative pharmacy.

Requirements for Ph.D. Degree

The student's first semester is usually occupied with course work while he or she is under the guidance of an assigned interim committee. During this time, each student will confer with several faculty members concerning the research project, and a major professor should be chosen by the end of the first semester of graduate study. The student's research committee should be chosen by the end of the first year of study (18-20 hours of graduate course work). The interest to pursue the M.S. en route to the Ph.D. degree should also be stated at this time. It is not necessary for all students to complete all requirements for the M.S. degree in order to qualify for admission into the Ph.D. program, although the student, with committee advice, may elect to complete the requirements for this degree in progress toward the Ph.D.

Students bypassing the M.S. must meet all requirements for the M.S., except for preparing and defending a thesis.

A formal plan of study and research plan must be submitted by the student, the major professor, and the research committee.

Progress will continue with guidance from the research committee, and by the end of the second year the student should have completed the language/research tool requirements.

To be admitted for candidacy for the Ph.D. degree, the student must satisfy the above requirements and pass oral and written qualifying examinations.

After admission to candidacy, a substantial part of the program is devoted to an original research project which culminates in a dissertation. To be recommended for the Ph.D., the dissertation must be satisfactorily completed and defended at an oral examination.

Courses of Instruction in Pharmacy

Professors Baldwin, Brister, Covington, Howard, Jacknowitz, Lim, C. Malanga, Mauger, O'Connell, O'Donnell, Rosenbluth, and Wojcik; Associate Professors Hoy, Ma, Riley, Stratford, and Waters; Assistant Professors Abate, M. Davis, Gross, Gwilt, Ponte, Schulz, and Stevenson; Clinical Associate Professor Lowe; Clinical Assistant Professors Bartsch, Gill, Hilligoss, Midcap, Parker, Prettyman, and Sensabaugh; Clinical Instructors Alderman, Anderson, Anido, Anile, Bailey, J. Bovenizer, N. Bovenizer, Caplan, Carter, Cole, Coleman, Corkrean, Crawford, Criss, R. Davis, Day, DeBone, Deem, Flanagan, Fruth, Gastineau, Gianettino, Grabowski, Grant, Griffith, Griffiths, Gryskevich, Hickman, Holmes, Jarvis, Johnson, Johnston, Lang, Law, Lindsay, Logan, Lusk, M. Malanga, Martin, McClendon, Menighan, Meredith, Miller, Muha, Orlando, Ott, Ottmar, Pawlak, Phillips, Plummer, Plyburn, Reed, Ridgway, Ritchie, Scott, Scrivo, Shallis, Shaw, Slaven, Stanley, Stout, Taylor, Tonkovich, Toompas, Van Meter, Weaver, Winters, Zicafoose, and Ziolkowski; Adjunct Associate Professor Glover; Adjunct Assistant Professors Cunningham, Harper, Richardson, and Swisher.

Pharmacy (Phar.)

200. *Preparation for Pharmacy Practice*. I. 3 hr. PR: First-year standing in pharmacy or consent. Pharmaceutical calculations, dosage forms, dispensing techniques, and an overview of pharmacy practice and career opportunities.
201. *Concepts in Pharmaceutics 1*. I. 3 hr. PR: First-year standing in pharmacy or consent. Concepts of a pharmaceutical system with emphasis on the physicochemical principles in formulations and dosage forms, primarily solutions and their calculations.
202. *Concepts in Pharmaceutics 2*. II. 4 hr. PR: Phar. 201. Special dosage forms, quality control, drug analysis, design and manufacture of pharmaceutical formulations and their conformity with Food and Drug Administration (FDA) regulations, especially good manufacturing practices.
203. *Concepts in Pharmaceutics 3*. I. 4 hr. PR: Phar. 202 or consent. Fundamentals of biopharmaceutics are presented. The kinetic, therapeutic, and dosage formulation-related aspects of drug absorption and disposition are discussed. Laboratories emphasize theoretical and practical problems in pharmacokinetics and bioavailability.
205. *Pharmacy Practice*. II. 4 hr. PR: Second-year standing in pharmacy or consent. Development of professional competence in the practice of pharmacy. Scientific principles underlying extemporaneous prescription compounding are applied to prescription problems. Problems arising in the dispensing of precompounded pharmaceuticals are studied.

207. *Introduction to Drug Literature*. II. 1 hr. PR: First-year pharmacy student or consent. To acquaint the student with the reference sources available to meet the drug information needs of pharmacists in the many different aspects of pharmacy practice, as well as those needed by other health practitioners.
211. *Sterile Products*. I, II. 3 hr. PR: Third-year standing in pharmacy. Broad view of the technology involved in sterilization and in the preparation and administration of sterile dosage forms. 2 hr. lec., 3 hr. lab.
212. *Non-Prescription Drugs*. I. 3 hr. PR: Second-year standing in pharmacy. Basis for self-medication, the therapeutic rationale for non-prescription drugs, and ethical principles as they apply to non-prescription drugs and appliances.
213. *Industrial Pharmacy*. I. 4 hr. PR: Phar. 202. Major aspects and principles of dosage form development and manufacture. Structure of industry and government influences. Laboratory experiences in manufacturing and development techniques.
214. *Cosmetic Formulation*. II. 3 hr. PR: Phar. 203. Introduction to principles and basic considerations of cosmetic formulations, including review of anatomy/physiology of skin. Laboratory exposes students to practical aspects of processing the most popular cosmetic products.
215. *Physical Pharmacy*. II. 3 hr. PR: First-year standing in pharmacy or consent. Designed to illustrate the special application of physiochemical properties of materials to pharmaceutical and physiological systems. Especially useful in delineating formulation considerations impinging upon the stability of complex systems.
216. *Hospital Pharmacy and Administration*. I. 3 hr. PR: Enrollment in the School of Pharmacy and consent. Basic concepts of the organization, management, and services of hospitals and pharmacist's role in the modern hospital. Emphasis on principles of hospital pharmacy administration and practice.
227. *The Pharmacist's Social Environment*. I. 2 hr. External factors which influence the practice of the pharmacist over which the pharmacist has little or no control, with emphasis on the psychosocial aspects and distributive systems.
228. *Pharmacy Practice and Legal Environment*. II. 4 hr. PR: Phar. 227 or consent. Continuation of Phar. 227 with emphasis on legal and health care delivery systems.
229. *Managerial Aspects of Pharmacy Practice*. I. 3 hr. PR: Phar. 227 and 228 or consent. Emphasis on decision making, planning, organization, personnel, information systems, risk factors, and financial aspects.
230. *Professional Aspects of Pharmacy Practice*. II. 3 hr. Emphasis on inventory control, pricing, communications, patient profiles and charges, and present and future role of pharmacist.
231. *The Pharmacist Proprietor*. I, 3 hr. PR: Senior standing in pharmacy. Pharmacist as a business owner; management theories and principles applied to the efficient operation of pharmacy.
232. *Social Aspects of Pharmacy*. II. 3 hr. Psychosocial aspects of pharmacists and patients in health care setting. Behavioral science factors which affect whether, why, or how medications and pharmaceutical services are used; role of pharmacist in health care.
233. *Current Developments in Pharmacy Practice*. II. 3 hr. PR: Third-professional-year standing, or second-professional-year by consent. Examines issues of current importance to contemporary pharmacy practice such as prepaid health insurance, peer standards review and organizations, degree and title granting, competency based relicensure and continuing education, and technicians' roles.
241. *Fundamentals of Pathophysiology*. II. 3 hr. PR: First-year standing in pharmacy or consent. Student is introduced to various disease states with emphasis on the pathophysiology underlying those diseases amenable to drug therapy.

243. *Chemotherapeutic and Immunobiologic Agents*. II. 3 hr. PR: Consent or second-year standing in pharmacy. Bacterial, viral, and parasitic infections; immunobiological methods of prevention, modification, and treatment; chemotherapeutic agents used in treatment; therapeutics and management.
245. *Pharmacotherapeutics 1*. I. 3 hr. PR: Second-year standing in pharmacy or consent. The application of pharmacodynamic, pharmacokinetic, and pharmaceutical principles in the treatment, diagnosis, and prevention of disease states.
246. *Pharmacotherapeutics 2*. II. 3 hr. PR: Phar. 245 or consent. A continuation of Phar. 245 in the application of pharmacodynamic, pharmacokinetic, and pharmaceutical principles in the treatment, diagnosis, and prevention of disease states.
249. *Drugs and Medicines*. I. 3 hr. (Not intended for pharmacy majors.) PR: General biology or consent. A course intended to introduce the nonhealth professional student to information about drugs and pharmaceutical preparations to include their source, administration, action, use and abuse.
250. *Ambulatory Care Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. A course giving extensive experience in the practice of pharmacy, emphasizing the pharmacist's relationship to ambulatory patients.
251. *Medical Team Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Students will participate on a health care team in an inpatient setting. Emphasis will be on pharmaceutical and drug advising, role of drug therapies in patient care, patient drug histories, and practitioner-patient communications.
252. *Institutional Care Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Extensive experience will be gained in the practice of pharmacy in institutional centers with emphasis on the pharmacist's relationship with institutional patients.
253. *Elective Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Students will elect to repeat a clerkship (Phar. 250, 251, 252). Emphasis will be on the further development of skills in the practice of pharmacy.
256. *Advanced Pharmacotherapeutics*. I. 3 hr. PR: Phar. 246 or equiv., and consent. The integration of pharmacological-therapeutic concepts in the study of treatment modalities and problems which may be encountered by the pharmacist in drug management of selected disease states.
260. *Principles of Medicine*. II. 2 hr. Those diseases about which the pharmacist should have sufficient knowledge for intelligent communication with the physician.
270. *Fundamentals of Medicinal Chemistry 1*. II. 3 hr. PR: First-year standing in pharmacy or consent. A relationship of the chemistry, structure, and physiochemical properties of drugs to their pharmacodynamic effects. Major portion devoted to basic principles followed by discussion in pharmacological classes.
271. *Fundamentals of Medicinal Chemistry 2*. I. 2 hr. PR: Phar. 270. Continuation of Phar. 270.
272. *Pharmacochemical Concepts of Drug Design*. II. 3 hr. PR: Phar. 271 or consent. Selected concepts of chemical approaches to the study of pharmacological and toxicological actions of drugs and their application to drug design.
276. *Pharmaceutical Quality Control*. I. 3 hr. PR: Second-year standing in pharmacy. Basic scientific principles in quality control of drugs and dosage forms, with particular attention to newer analytical techniques.
283. *History of Pharmacy*. I or II. 2 hr. Gives the student a deeper appreciation of the background of pharmacy and its development from ancient times to present. (Course will not be offered in 1984-85.)
284. *Public Health*. I or II. 2 hr. Measures required for the application of the pharmacist's knowledge, skill, and facilities to the promotion of the health and welfare of the public in cooperation with public and private health agencies. (Course will not be offered in 1984-85.)

285. *Radiopharmacy*. I. 3 hr. PR: Second-year standing in pharmacy or consent. Production and properties of radiation; detection of radiation; nuclear medicine instrumentation; the formulation, production, quality control, and use of radioactive materials and radiopharmaceuticals used in diagnosis and treatment.
287. *Seminar in Pharmaceutical Sciences*. I, II. 1-3 hr. PR: Consent. Presentation and discussion of special topics in pharmaceutical sciences.
289. *Pharmaceutical Investigations*. I, II, S 1-3 hr. PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacognosy, or pharmacy.
290. *Special Topics*. I, II. 1-4 hr.
298. *Clinical Pharmacy Specialties*. I, II, S. 3 hr. PR: Phar. 250, 251, 252, 253, and consent. Clinical pharmacy elective rotation on a selected medical specialty service. Rotations will be arranged upon approval by clinical pharmacy instructor and respective medical chiefs.
300. *Industrial Pharmacy*. I. 4 hr. Major aspects and principles of dosage form development and manufacture. Structure of industry and government influences. Laboratory experiences in manufacturing and development techniques.
301. *Advanced Biopharmaceutics*. I or II. 3 hr. Concepts of biopharmaceutics and pharmacokinetics in relation to the design and evaluation of dosage forms and determination of rational dosage regimens in health and disease.
314. *Cosmetic Formulation*. II. 3 hr. PR: Phar. 203. Introduction to principles and basic considerations of cosmetic formulations, including review of anatomy/physiology of skin. Laboratory exposes students to practical aspects of processing the most popular cosmetic products.
315. *Physical Pharmacy*. I or II. 3 hr. Designed to illustrate the special application of physiochemical properties of materials to pharmaceutical and physiological systems. Especially useful in delineating formulation considerations impinging upon the stability of complex systems.
370. *The Synthesis of Drugs*. I, II, S. 3 hr. PR: Chem. 332 and consent. A survey of the approaches employed in the synthesis of a variety of examples of pharmacologically useful agents. Emphasis is placed on retrosynthetic analysis of target molecules and the application of synthetic procedures to multi-step syntheses.
390. *Special Topics*. I, II, S. 1-4 hr.
391. *Seminar in Pharmaceutical Sciences*. I, II. 1 hr. PR: Consent. A multidisciplinary weekly presentation and discussion of special topics and research in the pharmaceutical sciences. (Weekly attendance is required and grading is on an S/U basis only.)
396. *Special Problems in Pharmaceutical Sciences*. I, II, S. 1-3 hr. Where special interest is shown by the student in an area other than of the student's thesis research, a faculty member will supervise individual study and research.
490. *Teaching Practicum*. I, II. 1-3 hr. PR: Graduate standing and consent. Supervised practices in college teaching of pharmacy.
491. *Advanced Study*. I, II, S. 1-6 hr. PR: Consent. Investigation in advanced subjects which are not covered in regularly scheduled courses. Study may be independent or through specially scheduled lectures.
494. *Special Seminars*. I, II, S. 1-6 hr. Special seminars arranged for advanced graduate students.
496. *Graduate Seminar*. I, II. 1 hr. PR: Consent. Formal presentation by graduate students to assembled graduate faculty and students of research or special topics approved by adviser. Title to be presented at start of semester. Required at least once annually. (Grading is S/U.)
497. *Research*. I, II. 1-15 hr.
498. *Thesis*. I, II, S. 2-4 hr. PR: Consent.

Pharmaceutical Chemistry (Ph. Ch.)

375. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Spectroscopic methods of analysis with emphasis on their applications in pharmaceutical problems and in biological sciences.
376. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Continuation of Ph. Ch. 375, with emphasis on electro-analytical methods and preparation of samples from pharmaceutical dosage forms and from biological materials.
377. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Physical-chemical principles involved in methods development. A special problem is assigned as an integral part of the course.

Pharmaceutics (Pceut.)

302. *Advanced Pharmaceutics*. I or II. 3 hr. Physiochemical and biopharmaceutical principles involved in disperse systems (liquid, semi-solid, and solid) which function as dosage forms. Considerations of properties of solid dispersions, micromeritics, diffusion of liquid dispersions, interfacial phenomena, emulsification, suspensions, prolonged action medication, etc.

Pharmacognosy (Pcog.)

340. *Organic Plant Constituents*. I or II. 3 hr. Occurrence, properties, biogenesis, etc., of a number of classes of organic compounds derived from plants. Emphasis on secondary metabolites which contain products of pharmaceutical or medicinal interest. (Course will not be offered in 1984-85.)
341. *Isolation of Plant Constituents*. I or II. 3-5 hr. Acquaints the student with techniques used in extraction, separation, and isolation of plant constituents. (Course will not be offered in 1984-85.)

Pharmacy Administration (Phar. Ad.)

320. *Drug Relation and Control*. I or II. 3 hr. Legislation affecting the development, introduction, control, and utilization of drugs in the American economy.
321. *Drug Distribution Systems*. I or II. 3 hr. Detailed study and analysis of drug distribution in institutional environments.
323. *Economics of the Pharmaceutical Industry*. I or II. 3 hr. History, background, and formation of major drug industries. Oligopolistic practices, mergers, combines, costs of research, and production.

Faculty and Staff

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Medicine, Richard A. DeVaul, M.D., Dean.

Nursing, Lorita D. Jenab, Ed.D., Dean.

Pharmacy, Sidney A. Rosenbluth, Ph.D., Dean.

University Hospital, David J. Fine, M.H.A., Acting Administrator.

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Examination of a child in University Hospital's emergency room.

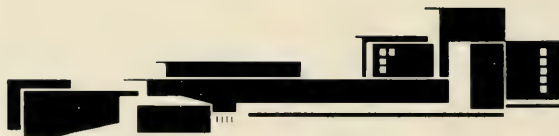


Inquisitive visitors at the children's clinic in the School of Dentistry.



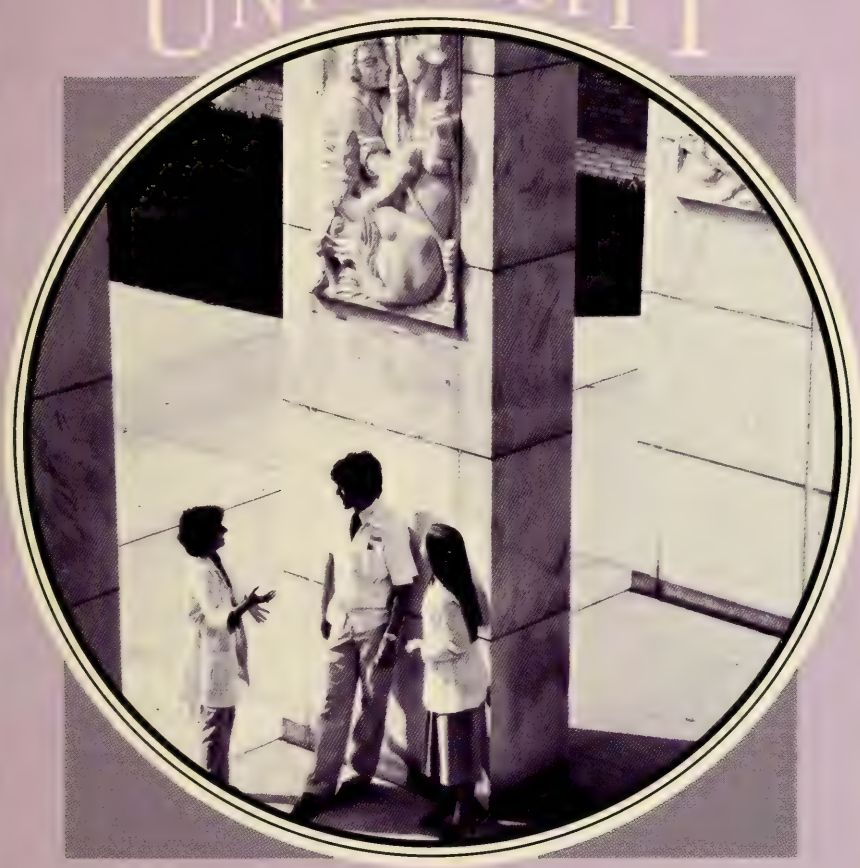
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COVER—Students conversing near the pylons at the entrance of the Basic Sciences Building. Pylons depict important developments in the history of medicine, dentistry, nursing, and pharmacy.

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Medical Center Basic Sciences School of Dentistry

Dental Hygiene

School of Medicine

Medical Technology

Physical Therapy

School of Nursing

School of Pharmacy

The 1985-86 West Virginia University Medical Center Catalog is a general source of information about course offerings, academic programs and requirements, expenses, rules, and policies. The courses, requirements, and regulations contained herein are subject to continuing review and change by the West Virginia Board of Regents, University administrators, and the faculties of the schools and colleges to best meet the goals and objectives of the University. The University, therefore, reserves the right to change, delete, supplement, or otherwise amend at any time the information, course offerings, requirements, rules, and policies contained herein without prior notice.

Edited by Stanley J. Nels
Associate University Editor

West Virginia University is an Equal Opportunity-Affirmative Action institution. In compliance with Federal Executive Order No. 11246 as amended, Title VII of the Civil Rights Act, West Virginia Human Rights Act Title IX (Educational Amendments of 1972), Sections 503 and 504 of the Rehabilitation Act of 1973, and other applicable laws and regulations, the University provides equal opportunity to all prospective and current members of the student body, faculty, and staff on the basis of individual qualifications and merit without regard to race, sex, religion, age, national origin, or handicap, as identified and defined by law.

The University neither affiliates with nor grants recognition to any individual, group, or organization having policies that discriminate on the basis of race, color, age, religion, sex, national origin, or handicap, as defined by applicable laws and regulations. —Office of the President

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UNIVERSITY CALENDAR, 1985-86

Summer Sessions, 1985

May 20, Monday	Registration, First Summer Session
May 20, Monday	First Classes
May 27, Monday	Memorial Day Recess
June 28, Friday	Last Classes
June 28, Friday	Registration, Second Summer Session
July 1, Monday	First Classes
July 4, Thursday	Independence Day Recess
August 9, Friday	Last Classes

First Semester, 1985-86

August 22, 23, Thursday and Friday	New Student Orientation
August 23, Friday	General Registration
August 26, Monday	First Classes
August 26, Monday	Late Registration Fee in Effect For All Students
August 30, Friday	Last Day to Register, Add New Courses, Make Section Changes, Change Pass/Fail, and Audit
September 2, Monday	Labor Day Recess
September 16-17, Monday and Tuesday	Rosh Hashanah— Days of Special Concern
September 25, Wednesday	Yom Kippur—Day of Special Concern
October 11, Friday	Mid-Semester
October 11, Friday	Mid-Semester Reports Due
November 1, Friday	Last Day to Drop a Class
November 23, Saturday, to December 1, Sunday, inclusive	Thanksgiving Recess
December 12, Thursday	Last Day to Withdraw From University
December 13, Friday	Last Classes
December 16, Monday, to December 21, Saturday, inclusive	Final Examinations
December 22, Sunday, to January 9, Thursday, inclusive	Christmas Recess

Second Semester, 1985-86

January 10, Friday	General Registration
January 13, Monday	First Classes
January 13, Monday	Late Registration Fee in Effect For All Students
January 15, Wednesday	Martin Luther King, Jr. Birthday Recess
January 20, Monday	Last Day to Register, Add New Courses, Make Section Changes, Change Pass/Fail, and Audit
February 7, Friday (Not a Holiday)	West Virginia University Day
February 17, Monday	Presidents Day Recess
February 28, Friday	Mid-Semester
February 28, Friday	Mid-Semester Reports Due
March 8, Saturday, to March 16, Sunday, inclusive	Spring Recess
March 21, Friday	Last Day to Drop a Class
March 28, Friday	Good Friday—Day of Special Concern
March 31, Monday	Easter Recess
April 8, Tuesday	Faculty Assembly
May 1, Thursday	Last Day to Withdraw From University
May 2, Friday	Last Classes
May 5, Monday, to May 10, Saturday, inclusive	Final Examinations
May 12, Monday	Grade Reports for All Graduates Due in Dean's Office
May 13, Tuesday	Dean's Reports for All Graduates Due in Office of Admissions and Records
May 17, Saturday	Alumni Day
May 18, Sunday	Commencement

The WVU academic year is divided into two semesters of about seventeen weeks each and summer sessions.

West Virginia University Medical Center

The year 1985 is important for the future of the West Virginia University Medical Center with the start of work on both a newly-independent WVU hospital system and a state Cancer Center.

When operational within a few years, the new hospital will provide a state-of-the-art teaching facility for Medical Center students and residents, and the Cancer Center will coordinate state-of-the-art research and treatment for West Virginia cancer patients.

Construction of the 377-bed Ruby Memorial Hospital is scheduled for completion in 1987. Under a bill enacted by the 1984 Legislature, the \$85 million hospital will be owned and operated by a non-profit corporation whose directors include public representatives and WVU and WVU Hospital officials. It will include a children's hospital and later a separate psychiatric hospital and an ambulatory care center.

Also included in the teaching hospital units adjacent to the Medical Center will be the Mary Babb Randolph Cancer Center. Congressional approval came late in 1984 for the first federal contribution of \$4.5 million for the center, named for the late wife of former Senator Jennings Randolph. Planners envision a \$31 million facility financed half by federal grants through the National Cancer Institute and half by private funds.

The new expansion programs begin on the heels of the 1983 opening of an addition to the Basic Sciences Building which added some 20,000 square feet to the main educational building. The \$2.7 million addition also enhanced the Medical Center's capacity for education, research and service with additional classrooms, laboratories and offices for the health science program.

When the Basic Sciences Building was opened in 1957 only 113 men and women were enrolled. The number today, including graduate students, is more than 1,800 in dentistry, medicine, nursing, pharmacy and related fields. Dentistry enrolls nearly 300 students including 90 in dental hygiene, medicine some 350, nursing about 450, and pharmacy more than 180. Graduate programs in the basic sciences, dentistry, medical technology, nursing and pharmacy enroll nearly 300 students, and 190 medical and six dental residents are taking specialty training.

Prior to 1957 WVU offered compete programs only in medical technology and pharmacy. A two-year School of Medicine required students to transfer to out-of-state schools to finish their studies. No educational opportunities existed in dentistry or nursing at WVU. The Medical Center now produces graduates qualified to meet most of the health needs of West Virginia citizens. It also reinforces and updates its teaching with continuing education programs and serves as both a referral and information resources center for the state's physicians and other health professionals.

The Basic Sciences Building and University Hospital, which opened in 1960, join together as a single unit to make up the Medical Center. After the

Nonacademic policies and regulations affecting students are summarized in the *Student Handbook*. Students are urged to obtain a copy of the *Student Handbook* from the Division of Student Affairs, 205 Moore Hall.

new Ruby Memorial Hospital opens in 1987 as a related but independent institution, the present hospital building will be used for other University purposes, most of them not yet determined. WVU Hospitals, Inc., plans to lease some 50,000 square feet including its present administrative offices and the laundry facilities. Ruby Memorial will be located adjacent to and south of the present WVU Hospital.

The Charleston Division of the Medical Center and the Wheeling Division of the WVU School of Medicine augment the Medical Center's outreach programs and expand the patient base. By extending the teaching scope of the University's programs, they influence health care and education in every part of the state.

Established in 1972 by an agreement between WVU and the Charleston Area Medical Center, the state's largest hospital complex, the Charleston Division serves students in dentistry, medicine, nursing, pharmacy, and allied health fields and offers postgraduate specialty training. The \$6 million Education Building there was opened in 1977 as a resource for clinical learning.

The Wheeling Division was started in 1974 in cooperation with the Ohio Valley Medical Center and Wheeling Hospital. A joint Wheeling Area Medical Education Committee oversees the program, which offers elective opportunities for medical students and postgraduate specialty training.

University Hospitals, Inc.

For the past quarter century West Virginia University Hospital provided the training ground for Medical Center health professionals, offering patients the best in medical care along with education for students and advancement of knowledge. In 1984 the hospital entered a new administrative era when the Legislature cut it loose from state operation and placed it under the ownership and direction of a non-profit corporation known as West Virginia University Hospitals, Inc. The hospital had needed major upgrading costing nearly \$50 million to meet new safety codes and other requirements, and lawmakers agreed a new hospital was the best answer. Construction starts this year and first patients are to be admitted by 1988.

The main medical and surgical hospital will be known as Ruby Memorial Hospital in honor of the late Morgantown industrialist J. W. Ruby, and the system eventually will include a psychiatric hospital, a cancer center, a children's hospital and an ambulatory care unit. The board of directors, which has the University president as chairman and the hospital's chief executive officer as president, also includes representatives of labor and industry, the elderly, and other public groups.

Patients come to WVU Hospital and its clinics from all parts of West Virginia, with 40 of the state's 55 counties represented on a typical day. They find expertise, experience and equipment or other resources sometimes not available elsewhere in the state, in such areas as laser surgery, pain control, bladder pacemakers, radiation therapy, pediatric surgery and cleft palate repair. More than 2,000 patients are seen weekly in the 50 clinics and the Emergency Department records some 35,000 patient visits per year.

University Hospital recently was awarded a major Robert Wood Johnson Foundation grant to develop a hospital-based program for the elderly. It was one of 25 hospitals nationwide chosen from among 320 applicants. Earlier the hospital's General Medicine Clinic won a \$783,000 Johnson grant to strengthen its service over a period of four years.

Radiologic Technology

A two-year program for radiologic technologists is offered by the Department of Radiology at University Hospital. This course covers anatomy and physiology, radiologic physics, quality assurance, radiographic procedures, pathology, medical terminology, computer literacy, nursing procedures, and professional ethics. Subjects taken do not carry WVU credit, but provision to transfer course work under the Board of Regents bachelor of arts program may be pursued. Clinical education is acquired on assigned tours of duty under the tutelage of staff members and clinical instructors.

Candidates must be graduates of accredited high schools with scholastic and personal records acceptable to the Admission Committee. Applicants must have taken the American College Testing examination (ACT); the Student Aptitude Testing exam (SAT) may not be used as a substitute for an ACT score.

Students provide their own lodging and meals. Those completing the program are awarded a certificate and are eligible to take the American Registry Examination.

Communications should be addressed to: Coordinator, Radiologic Technology Training, Department of Radiology, West Virginia University Hospital, Morgantown, WV 26506.

Dietetic Internship Program

The Dietetic Internship Program is offered by the Department of Nutrition and Dietetics of West Virginia University Hospitals, Inc. The internship is a 44-week generalist program providing learning experience in administrative and clinical dietetics, and is accredited by The American Dietetics Association. Upon successful completion of the program, the intern is recommended for membership in The American Dietetic Association and is eligible to complete the National Registration Examination.

Admission requirements are: completed bachelor's or advanced degree from an accredited college or university with courses meeting ADA Plan IV Program Requirements in general dietetics and at least a 2.75 overall grade-point average with a 2.25 in science courses and 3.0 in food and nutrition courses. Applications should reach the Internship Director by February 20. Appointments will be made in April for entrance in September.

Appointments to the program will be based on personal goals and expectations as identified in the letter of application, evidence of scholastic performance, work experience, extracurricular activities, scholastic honors received, letters of reference, and personal interview with the screening committee.

Communications should be addressed to:
Director of Dietetic Internship
West Virginia University Hospitals, Inc.
Department of Nutrition and Dietetics
P.O. Box 6401
Morgantown, WV 26506-6401

Dental Clinic

Clinical training and experience constitute a major part of the curriculum for dental students. Facilities for dental and dental hygiene students include 160 treatment cubicles and all necessary related laboratories. Patients are accepted for treatment if their dental problems are of teaching value and if a

student is available for assignment. The student is assigned to a patient and must work under close supervision of a faculty member. Dental services are also available through the various specialty programs and faculty practice. The clinic programs provide practical experience for the students and a much needed service to several thousand patients annually.

University Health Service

The University Health Service provides primary medical care for WVU students, faculty, and staff. Currently enrolled students who pay the Health Service fee and have a current ID card may use the service, which covers medical consultation and treatment at the Health Service on the Ground Floor of University Hospital. Patients requiring specialized care may be referred to the Outpatient Clinics at the Medical Center. The patient will be responsible for the fees thus incurred (registration charge, physician's fee office, x-ray, laboratory, etc.).

When the Health Service is closed, the Emergency Department is available for care. Costs incurred at the Emergency Department are the responsibility of the student. Informed and responsible use of this area is encouraged because most insurance policies cover such costs only if the visit was truly an emergency. A voluntary insurance plan is available to students to cover the cost of inpatient and outpatient services beyond primary fare. Students are strongly advised to obtain such coverage. Details are available in a Health Service brochure.

Library

The Medical Center Library, a part of the Medical Center Learning Resources Center, serves the students, faculty, and staff of the four Medical Center schools and University Hospital. Its services are available to health professionals throughout West Virginia and, within certain guidelines, to the general public.

The library in the Basic Sciences Building contains approximately 157,000 bound volumes. More than 3,000 domestic and foreign periodicals are currently received.

The Medical Center Library and other University libraries maintain an active interlibrary loan service. Material not in WVU libraries may be borrowed from libraries in other cities.

The library is open, except on holidays, from 8:00 a.m. to 11:45 p.m., Monday through Thursday; from 8:00 a.m. to 11:00 p.m., Friday; from 9:00 a.m. to 6:00 p.m., Saturday; and from 1:00 p.m. to 11:00 p.m., Sunday. Changes in scheduled hours are posted in advance.

Admissions

Admission to West Virginia University is governed by policies established by the WVU Faculty Senate, the University administration, and the West Virginia Board of Regents. Specific applications of these policies may vary from year to year from program to program. All University admissions are governed by the following general policies:

1. The primary responsibility of the University is to the residents of West Virginia. Consequently, preference will be given to West Virginia residents in various admission processes.

2. Within the space available in a particular program, admissions will be offered preferentially to those whose performance record indicates the highest probability of success in the chosen program.

Admission of Freshman Students

West Virginia high school students should obtain applications for admission from their high schools. Out-of-state students may write the WVU Office of Admissions and Records and request an application form (P.O. Box 6009, Morgantown, WV 26506-6009.) Applicants should prepare their part of the application and then return it to their school. The school then will send the completed application and transcript of the student's high school grades directly to the WVU Office of Admissions and Records.

All students are required to take the American College Testing Program (ACT) tests and have the report of scores sent to WVU prior to the admission decision, and no other test may be substituted for it.

Students interested in financial assistance must file a Financial Aid Form (FAF) with College Scholarship Service, Box 2700, Princeton, NJ 08540. Forms are available at high schools or from the College Scholarship Service or the WVU Financial Aid Office. Submit only forms dated for the current academic year.

Your Guide to Financial Aid—West Virginia University is available at the WVU Financial Aid Offices, Mountainlair, Downtown Campus, and 104 Basic Sciences Building, Medical Center. The guide describes available financial aid, application procedures, and estimated educational expenses for attending WVU.

General Course Requirements

All applications must include an official transcript of the high school record from an accredited high school. To be considered for admission to WVU, an applicant is required to present the following high school credits:

English—4 units.

Biology—1 unit.

Social Studies—3 units.

Mathematics—2 units of college preparatory mathematics, one of which must be algebra (all students). (2 units of algebra and 1 unit of geometry for students wishing to enter any program requiring a specific mathematics course for graduation.)

Electives—8 additional units chosen from the areas of fine arts, science, mathematics, computer science, foreign languages, and communication.

Students should also be aware that some colleges, schools, and programs have admissions standards that exceed the minimum requirements listed above. Students wishing to gain admittance to those programs should plan their high school program accordingly, choosing from among the elective areas those subjects which will meet those requirements.

Students wishing to enhance their chances for academic success at WVU should choose these elective units so as to provide additional preparation for the chosen field of study.

Grade-Point Average (GPA); Test Score Requirements

For freshman admission, performance is measured by high school grade-point average and ACT test results.

High school seniors who rank in the upper 5 percent of their graduating class, have an ACT composite score of at least 28, or are National Merit Semifinalists will be admitted without regard to residence.

West Virginia Residents

West Virginia residents who satisfy the General Course Requirements (above) and have at least a 2.0 high school grade-point average or a composite American College Testing Program (ACT) score of at least 16 will be admitted to WVU.

Nonresidents

Nonresidents who satisfy the General Course Requirements (above) and have at least a 2.25 high school grade-point average or a composite ACT score of at least 18 will be admitted to WVU.

Admission to Medical Center Programs

Applicants for admission to any of the schools of the WVU Medical Center should write to the Assistant to the Dean of Admissions and Records, WVU Medical Center, Morgantown, WV 26506, who will furnish official blanks upon which formal application must be made. (The *WVU Medical Center Catalog* has complete information for all Medical Center programs and is available at the Office of Admissions and Records.)

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

When requesting an application by letter for any of the Medical Center programs, the permanent home address must be given.

Dentistry and Medicine applications fees are \$30.00. All other WVU Medical Science programs are \$10.00 and must accompany the applications.

Any applicant who is refused admission, or who fails to enroll after acceptance, must re-apply in the regular manner if consideration for a subsequent year is desired.

Those applicants accepted for admission to any of the programs of the WVU Medical Center, except the Division of Dental Hygiene and out-of-state applicants to the School of Dentistry, are required to deposit \$50.00 before acceptance becomes official. Applicants accepted to the Division of Dental Hygiene deposit \$40.00, and out-of-state applicants accepted to the School of Dentistry deposit \$100. If the applicant enrolls in the program of the applicant's choice, the deposit is applied to the first-semester tuition.

If an application for admission to the School of Medicine is withdrawn after the applicant has been offered a place and has submitted a deposit, such deposit may be refunded any time before March 30 of the year in which enrollment is anticipated, but will not be refunded after this date. Deposits submitted to all other programs are nonrefundable.

It is required that during the first semester of the first year all WVU Medical Center students must complete certain prescribed immunization and diagnostic procedures.

Admission of Transfer Students

Admission as a transfer student is available to those students who present evidence of 29 transferable credit hours or more from an accredited post-secondary institution. Applicants with fewer than 29 transferable hours of credit must apply for freshman admission.

Students wishing to transfer with more than 58 hours of transferable credit must be admitted to a specific degree-granting program within the University before formal admission is granted.

To be eligible to transfer, West Virginia residents must have an overall grade-point average of 2.0 in all college-level work attempted. Nonresidents must have an overall grade-point average of 2.5 in all college work attempted to be eligible for transfer.

Acceptance of students with 58 or fewer transfer credit hours into some areas, e.g., engineering, pre-business and economics, and pre-computer science, will be limited by the openings of available positions as well as the academic credentials of the student.

Applicants for transfer from another college or university must submit the following to the Office of Admissions and Records:

A complete application for undergraduate admission and an official transcript of all college work attempted to date must be received at least two months prior to the semester for which the applicant wishes admission. An official transcript covering subjects subsequently taken must be sent before final admission is granted.

A complete application must include Catalog pages describing all subjects which have been or will have been completed. The applicant's name should be written on each page and each subject must be indicated by a check mark in the margin. Complete catalogs should not be sent. (*Catalog pages describing courses taken at West Virginia Board of Regents institutions need not be submitted.*)

Credits and grades for all baccalaureate-level courses at any baccalaureate degree-granting institution in the West Virginia state system of higher education may be transferable toward a bachelor's degree, depending on the degree-granting unit. Furthermore, up to 72 hours of credits and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia state system shall be transferable toward a bachelor's degree.

Credits (though not grades) are transferable from institutions outside the West Virginia state system for courses carrying a grade of C or higher.

Credits from two-year community colleges and junior colleges outside the West Virginia state system are limited to 72 hours of lower-division courses. These colleges must be accredited by the North Central Association of Colleges and Schools or other regional accrediting associations.

The transfer of credits does not exempt the student from satisfying all the requirements for the student's degree program at WVU.

Evaluation of transcripts for transfer of credit is furnished only after receipt of complete official transcripts and provisional admission to WVU. Therefore, a complete application and all transcripts must be in the Office of Admissions and Records two months in advance of registration.

Intrauniversity Transfers

Students transferring from Potomac State College of WVU shall be considered intrauniversity transfers. All records made at Potomac State College are part of the student's WVU record, but no more than 72 hours of credits may be applied toward the baccalaureate degree.

Admission of Special Students

Persons not desiring to become candidates for a degree may, by special permission, be admitted as special students. Such students are subject in all respects to the usual rules relating to registration and scholarship. Admission to any class is subject to the approval of the instructor in charge.

Students who do not plan to follow a degree program at WVU should submit only a statement of good standing from the last college attended.

Admission of Post-Baccalaureate Students

Students possessing one or more earned degrees from an approved college or university and desiring to enroll for undergraduate credit may be admitted as post-baccalaureate students. Students admitted in this category would not be working toward a graduate degree and credit earned while under this classification would be limited to undergraduate credit. Students admitted as post-baccalaureate, since they are limited to undergraduate credit, would be assessed undergraduate fees. Candidates for admission to this classification who are not graduates of WVU must submit an official transcript from the institution granting their latest degree.

Individual Admissions

Recognizing the need to accommodate certain students who would not otherwise qualify for admission, WVU may permit up to 5 percent of the admissions class based on the previous year's class to be admitted under an individual admission category. This category includes students who have exhibited exceptional aptitude or talent, e.g., art, music, writing, dramatics, or athletics. The educationally disadvantaged will also be given consideration under this category.

All students who have graduated from high school or received a GED diploma more than five years prior to seeking admission to WVU may have the requirement for ACT scores waived at the discretion of the institution.

Admission of International Students

West Virginia University is authorized under Federal law to enroll nonimmigrant alien students.

International students wishing to enroll in WVU must comply with the academic requirements stated above in addition to other academic and nonacademic requirements as follows.

Early Inquiry and Application—International applicants should forward a letter of inquiry one year before they intend to begin study in the United States. The University receives a large number of applications from international students. For this reason and because of the time required for the student to make visa and financial arrangements, April 1 has been established as a deadline after which applications cannot be processed.

International students should make all arrangements for their financial obligations to WVU and for their entire stay in the United States before leaving their country.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

Health Sciences Programs At West Virginia University

Degree Program	Bachelor	Master	Doctorate
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School of Dentistry

Dental Hygiene	B.S.		
Dentistry			D.D.S.
Endodontics		M.S.	
Orthodontics		M.S.	

School of Medicine

Anatomy	M.S.	Ph.D.
Biochemistry (Medical)	M.S.	Ph.D.
Medical Technology	B.S.	M.S.
Medicine		M.D.
Microbiology (Medical)	M.S.	Ph.D.
Pharmacology and Toxicology	M.S.	Ph.D.
Physical Therapy	B.S.	
Physiology (Medical)	M.S.	Ph.D.
Biomedical Sciences		Ph.D.*

School of Nursing

Nursing	B.S.N.	M.S.N.
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School of Pharmacy

Pharmaceutical Sciences	M.S.	Ph.D.
Pharmacy	B.S.Pharm.	

University Hospital

Medical Graduate Residencies
Radiologic TechnologyCertificate

*Awarded under the auspices of the degree-granting authority of West Virginia University, but in cooperation with the Basic Sciences Departments of the Marshall University School of Medicine. [For details, see the WVU Graduate Catalog or the Marshall University Graduate Catalog.]

English Proficiency—All international applicants whose native language is not English must submit Test of English As a Foreign Language (TOEFL) scores. A minimum of 550 is required for admission. TOEFL information and registration forms are available from the Educational Testing Service, Princeton, NJ 08540 USA. Tests are normally given six times each year. It requires one month to score and report individual test results. Registration for the TOEFL examination closes five weeks before the testing date.

Credentials—Complete and original official records of all studies undertaken by an applicant at any institution attended (secondary school, college, university, technical school, professional school, etc.) must be provided at time of application for admission to WVU. Copies of original records are acceptable, provided they are officially stamped.

Such records should include: (1) complete dates of attendance; (2) identification of individual subjects; (3) total number of hours in each class per week; (4) total number of weeks each class meets in session; (5) final grade in each subject, for each year; (6) actual credits earned for each subject; (7) class, division, or rank achieved; (8) identification of the individual; (9)

explanation of each institution's grading system; and (10) certification, and date, of degree or awards achieved. If any of this information cannot be supplied, an official explanatory statement from the school should be submitted. *(All documents must be accompanied by certified English translations.)*

All documents should be forwarded directly from the registrar or other authorized official of the school to the WVU Office of Admissions and Records, P.O. Box 6009, Morgantown, WV 26506-6009 USA.

If an applicant is currently enrolled in a school, tentative admission may be granted on the basis of an incomplete record which indicates the applicant will unquestionably meet the admission standards of WVU. Final admission, however, cannot be approved until the complete record has been received and evaluated.

*International Students Transferring Within the United States—*International students applying to transfer from schools within the United States will not be permitted to register at WVU unless they have complied with all transfer procedures as required by the United States Immigration and Naturalization Service (INS). Upon arrival on the campus the student must be prepared to present the I-20 ID to the International Student Adviser for signature.

No student should move to Morgantown without having received an assurance of admission from WVU.

Admission of Veterans

Veterans may be admitted to WVU with less than the minimum admission requirements necessary for other, nonveteran applicants.

Information regarding educational opportunities made possible at the University through provisions of the Veterans Readjustment Benefits Act of 1966—G.I. Bill (Public Law 358), the Vocational Rehabilitation Program of the Veterans Administration (Public Law 16), and the War Orphan's Educational Assistance Act of 1956 (Public Law 634) may be obtained from a financial aid counselor by personal conference at the Student Financial Aid Office in Mountainlair, or by mail (P.O. Box 6004, Morgantown, WV 26506-6004). An amendment to Public Law 634, enacted in 1964, provides benefits to many dependents of 100 percent disabled veterans.

Veterans having at least one continuous year of active military service may receive advanced placement credit for General Physical Education 1 and 2. Proof of such military service must be presented to the Dean of Admissions and Records.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

Readmission

Undergraduate students who leave the University for at least one complete semester are required to submit an application for readmission to the Dean of Admissions and Records.

Students who have been suspended from the University must have written approval from the dean of the school or college to which they desire to be admitted.

Approval in writing must be secured in advance to elect courses offered elsewhere. A cumulative average of C is required in order to obtain such approval. Credit will be accepted for transfer for courses carrying a grade of C or higher when the conditions indicated above have been met.

Students wishing to change their major upon readmission must have permission from their previous dean and the dean of the school or college to which they desire to be admitted.

Fees and Expenses

All West Virginia University fees are subject to change without notice.

All fees are due and payable to the Controller on the days of registration. Students must pay fees before registration is accepted. Completion of arrangements with the Controller's Office for payment from officially accepted scholarships, loan funds, grants, or contracts shall be considered sufficient for acceptance of registration. Fees paid after regular registration must be paid to the University Cashier in Mountainlair.

All students are expected to register on days set apart for registration at the beginning of each semester or summer session of the University.

No student will be permitted to register at the University after the eighth day of a semester or the fourth calendar day of the summer sessions or a single summer session. Days are counted from the first day of registration.

Any student failing to complete registration on regular registration days is subject to the Late Registration Fee of \$20.00.

Students registering pay the fees shown in the fees charts, plus special fees and deposits as required.

No degree will be conferred upon any candidate and no transcripts will be issued to any student before payment is made of all tuition, fees, and other indebtedness to any unit of the University.

Persons not registered as University students and who are not members of its administrative or teaching staffs shall not be admitted to regular attendance in University classes.

Classification of Students (Full-Time and Part-Time)

A *full-time graduate student* is one who is registered for 9 or more semester hours of work each semester of the regular academic year, or 6 or more semester hours of work altogether during the summer.

A *full-time undergraduate student* is one who is registered for 12 or more semester hours of work each semester of the regular academic year, or 6 or more semester hours of work during a 6-week summer session.

For fee assessment purposes, a *part-time graduate student* is one who is registered for fewer than 9 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

A *part-time undergraduate student* is one who is registered for fewer than 12 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

It should be recognized that unique curriculum requirements in several of the Medical Center programs may require student involvement in summer clinical clerkships prior to official enrollment for the following semester's work.

Summer Tuition and Fees

Tuition, per semester hour	Resident	Nonresident
Undergraduate students	\$31.00	\$114.00
Graduate students	45.00	164.00
Dentistry and Medicine students	93.00	244.00
Daily Athenaeum Fee*	1.00	1.00
Radio Station Fee*	1.00	1.00
Health, Counseling, and Program Services Fee	21.00	21.00
Mountainlair Construction Fee, per 6-week summer session or any portion thereof*	15.00	15.00
Student Affairs Fee	8.00	8.00
Transportation Fee	17.00	17.00

*Fee required of all students. (Nonrefundable unless student withdraws officially before the close of general registration.)

Special Fees

Application for Undergraduate Admission (Freshman, Transfer, and Foreign Students)	\$10.00
Application for Admission (Medicine and Dentistry)	30.00
Application for Admission (College of Law and Graduate Studies) ..	20.00
Certificate of Advanced Study in Education	2.00
Diploma Replacement	20.00
Examination for Advanced Standing	35.00
Examination for Entrance Credit, per unit	1.00
Non-Enrolled Graduate Student Evaluation Fee	50.00
(For graduate students not otherwise enrolled at time of final examination.)	
General Educational Development Tests (high school level)	15.00
(If the applicant applies for admission to and registers in WVU within twelve months of the date of qualifying for the test, a \$10.00 credit shall be established for the applicant.)	
Graduate Program Continuance Fee	35.00
Graduation	20.00
(Payable by all students at the beginning of the semester or session in which they expect to receive their degrees.)	
Late Registration (nonrefundable)	20.00
(Not charged to students who complete registration during the regular registration days as set forth in the University Calendar.)	
Reinstatement of Student Dropped from the Rolls	10.00
Student Identification Card Replacement	10.00
Student's Record Fee	3.00
(One transcript of a student's record is furnished by the Office of Admissions and Records without charge. This fee is charged for furnishing an additional transcript.)	

Fees for Off-Campus Courses

Fees for credit hours for off-campus students are the same as those charged students enrolled in on-campus courses. Off-campus students do not pay the Daily Athenaeum Fee, the Radio Station Fee, or the Mountainlair Construction Fee. However, all students must pay a \$20.00 course fee for each off-campus course taken.

ESTIMATED EXPENSES FOR MEDICAL CENTER PROGRAMS (First Semester) [Subject to Change]

Tuition and registration are the same for both semesters. Some expenses, such as instruments and books, will be different for the Second Semester.

School or Division	Tuition and Registration Fees		Instruments	Lab Coats, Uniforms, etc.	Books	Total	
	Resident	Nonresident				Resident	Nonresident
Dental Hygiene							
Freshman	\$ 580.00	\$1,570.00	\$ 130.00	\$ 17.00	\$140.00	\$ 867.00	\$1,857.00
Sophomore	580.00	1,570.00	850.00	185.00	155.00	1,770.00	2,760.00
Junior	580.00	1,570.00	260.00	100.00	230.00	1,170.00	2,160.00
Senior	580.00	1,570.00	100.00	100.00	75.00	855.00	1,845.00
Dentistry							
First Year	1,045.00	2,395.00	2,500.00	88.00	550.00	4,183.00	5,533.00
Second Year	1,045.00	2,395.00	110.00	110.00	150.00	1,985.00	3,335.00
Third Year	1,045.00	2,395.00	680.00	—	60.00	1,105.00	2,455.00
Fourth Year	1,045.00	2,395.00	—	—	—	1,045.00	2,395.00
Medical Technology							
Junior	580.00	1,570.00	100.00	80.00	310.00	1,070.00	2,060.00
Summer	125.00	291.00	—	220.00	—	568.00	734.00
Senior	580.00	1,570.00	—	155.00	—	735.00	1,725.00
Medicine							
First Year	1,045.00	2,395.00	271.00	108.00	907.00	2,331.00	3,681.00
Second Year	1,045.00	2,395.00	816.00	108.00	725.00	2,694.00	4,044.00
Third Year	1,045.00	2,395.00	—	71.00	725.00	1,841.00	3,191.00
Fourth Year	1,045.00	2,395.00	—	71.00	453.00	1,569.00	2,919.00
Nursing							
Sophomore	580.00	1,570.00	40.00	130.00	500.00	1,250.00	2,240.00
Summer	249.00	747.00	—	—	120.00	369.00	867.00
Junior	580.00	1,570.00	—	—	120.00	700.00	1,690.00
Senior	580.00	1,570.00	—	—	130.00	710.00	1,700.00
Pharmacy							
Third Year	580.00	1,570.00	46.00	30.00	190.00	846.00	1,836.00
Fourth Year	580.00	1,570.00	—	30.00	170.00	780.00	1,710.00
Summer	322.00	1,069.00	—	—	—	1,442.00	1,069.00
Fifth Year	580.00	1,570.00	—	30.00	75.00	685.00	1,675.00
Physical Therapy							
Junior	580.00	1,570.00	60.00	70.00	250.00	980.00	1,950.00
Senior	580.00	1,570.00	—	70.00	335.00	985.00	1,975.00
Summer	186.00	684.00	—	—	—	186.00	684.00

TUITION & REGISTRATION FEES BREAKDOWN

	Dent Hyg, Med Tech, Nsg, Pharm & Phys Ther	Full-time 12 hr or more	Tuition		Registration	Higher Education Resources	Institutional Activity	Mountainair Construction	Faculty Improvement	Total
			Resident	Nonresident						
Graduate	Full-time 9 hr or more	Resident	\$130.00	\$ 50.00	\$ 50.00	\$ 180.00	\$165.00	\$40.00	\$15.00	\$ 580.00
		Nonresident	500.00	250.00	250.00	565.00	165.00	40.00	50.00	1,570.00
Dentistry & Medicine	Full-time 9 hr or more	Resident	160.00	\$ 50.00	\$ 50.00	\$ 180.00	165.00	40.00	15.00	\$170.00
		Nonresident	600.00	250.00	250.00	565.00	165.00	40.00	50.00	1,670.00
	Full-time 9 hr or more	Resident	300.00	\$ 50.00	\$ 50.00	\$ 475.00	165.00	40.00	15.00	\$1,045.00
		Nonresident	800.00	250.00	250.00	1,090.00	165.00	40.00	50.00	2,395.00

TUITION PER SEMESTER HOUR—PART-TIME & SUMMER (Under 9 hr.)

Dental Hygiene, Medical Technology, Nursing, Pharmacy, and Physical Therapy	\$31.00	Per Credit Hour—\$114.00	Nonresident
Graduate	\$31.00	Per Credit Hour—\$164.00	Nonresident
Dentistry and Medicine	\$31.00	Per Credit Hour—\$244.00	Nonresident

SEMESTER \$45.00 — SPECIAL FEES — SUMMER \$17.00 under 6 hr. — \$63.00 6 hr. or more each session

Laboratory Fees

Consult specific departmental sections of this *Catalog* concerning nonrefundable deposits and microscope rental fee.

Service Charge on Returned Checks

A service charge of \$10.00 shall be collected on each check returned unpaid by the bank upon which it is drawn.

If the check returned by the bank was in payment of University and registration fees, the Controller's Office shall declare the fees unpaid and registration cancelled if the check has not been redeemed within three days from date of written notice. In such a case the student may be reinstated upon redemption of the check, payment of the \$10.00 service charge, the Reinstatement Fee of \$10.00, and the Late Registration Fee of \$20.00.

Refund of Fees

A student who officially withdraws from University courses may arrange for a refund of fees by submitting to the University Controller evidence of eligibility for a refund.

To withdraw officially, a student must apply to the Division of Student Affairs for permission. Semester fees will be returned in accordance with the following schedule:

<i>Academic Year (Semester)</i>	<i>Refund</i>
During the first and second weeks	90%
During the third and fourth weeks	70%
During the fifth and sixth weeks	50%
Beginning with the seventh week	No Refund

Summer Sessions and Non-Traditional Periods

Refunds for summer sessions and non-traditional periods are established based upon the refund rate for the academic year. (For specific information concerning Summer Session refunds, see the appropriate *Summer Schedule of Courses*.) Should the percentage calculation identify a partial day, the entire day will be included in the higher refund period.

No part of the Activity Fee is refundable unless the student withdraws from the University.

University policy provides that students called to the armed services of the United States may be granted full refund of refundable fees, but no credit, if the call comes before the end of the first three-fourths of the semester, and that the full credit of courses be granted to persons called to the armed services of the United States if the call comes thereafter; provided, however, that credit as described above will be granted only in those courses in which the student is maintaining a passing mark at the time of departure for military service. In the recording of final grades, for three-fourths of a semester or more, both passing and failing grades are to be shown on the student's permanent record.

Identification Card

An identification card is issued to each full-time student upon paying full fees. It entitles the owner admission to certain University athletic events, various activities of student administration, Health Service, and Mountainlair. Confiscation will result from misuse. The University reserves the right to refuse reissuance of an identification card.

Residential Status for Admission and Fee Purposes

The West Virginia Board of Regents has adopted a policy regarding classification of students as residents or nonresidents for admission and fee purposes at all institutions under its jurisdiction.

1. *General.* Students enrolling in a West Virginia public institution of higher education shall be classified as resident or nonresident for admission, tuition, and fee purposes by the institutional officer designated by the President. (At West Virginia University, the Dean of Admissions and Records.) The decision shall be based upon information furnished by the student and all other relevant information. The Dean of Admissions and Records is authorized to require such written documents, affidavits, verifications, or other evidence as are deemed necessary to establish the domicile of a student. The burden of establishing residency for admission, tuition, and fee purposes is upon the student.

If there is a question as to residence, the matter must be brought to the attention of the Dean of Admissions and Records at least two weeks prior to the deadline for the payment of tuition and fees. Any student found to have made a false or misleading statement concerning residence shall be subject to institutional disciplinary action and will be charged the nonresident fees for each academic term theretofore attended.

2. *Residence Determined by Domicile.* Domicile within the State means adoption of the State as the fixed permanent home and involves personal residence within the State with no intent on the part of the applicant or, in the case of the dependent student, the applicant's parent(s) to return to another state or country. Residing with relatives (other than parent(s)/legal guardian) does not, in and of itself, cause the student to attain residence in this State for admission or fee payment purposes. West Virginia domicile may be established upon the completion of at least twelve months of continued residence within the State prior to the date of registration, provided that such twelve months residency is not primarily for the purpose of attendance at any institution of higher education in West Virginia.

Establishment of West Virginia domicile with less than twelve months residence prior to the date of registration must be supported by evidence of positive and unequivocal action. Priority consideration should normally be given to such evidence as the purchase of a West Virginia home, full-time employment within the State, paying West Virginia property tax, filing West Virginia income tax returns, registering of motor vehicles in West Virginia, and marriage to a West Virginia resident. Items of lesser importance which might be considered as support factors include registering to vote in West Virginia and the actual exercise of such right, possessing a valid West Virginia driver's license, transferring or establishing local church membership, involvement in local community activities, and various other acts which may give evidence of intent to remain indefinitely within the State. Proof of a number of these actions shall be considered only as evidence which may be used in determining whether or not a domicile has been established. Factors militating against the establishment of West Virginia residency might include such considerations as the student not being self-supporting, being claimed as a dependent on federal or state income tax returns or the parents' health insurance policy if the parents reside out of state, receiving financial assistance from state student aid programs in other states, and leaving the State when school is not in session.

3. *Dependency Status.* A dependent student is one who is listed as a dependent on the federal or state income tax return of his/her parent(s) or

legal guardian or who receives major financial support from that person. Such a student maintains the same residency as that of the parent(s) or legal guardian. In the event the parents are divorced or legally separated, the dependent student takes the residence of the parent with whom he/she lives or to whom he/she has been assigned by court order. However, a dependent student who enrolls and is properly classified as a resident student maintains that classification as long as the enrollment is continuous and that student does not attain independence and establish domicile in another state.

A nonresident student who becomes independent while a student at an institution of higher education in West Virginia does not, by reason of such independence alone, attain residence in this State for admission or fee payment purposes.

4. *Change of Residence.* A student who has been classified as an out-of-state resident and who seeks resident status in West Virginia must assume the burden of providing conclusive evidence that he/she has established domicile in West Virginia with the intention of making the permanent home in this State. The intent to remain indefinitely in West Virginia is evidenced not only by a person's statements but also by that person's actions. In making a determination regarding a request for change in residency status, the Dean of Admissions and Records shall consider those actions referenced in Section 2 above.

5. *Military.* An individual who is on full-time active military service in another state or a foreign country or an employee of the federal government shall be classified as a resident for the purpose of payment of tuition and fees, provided that the person established a domicile in West Virginia prior to entrance into federal service, entered the federal service from West Virginia, and has at no time while in federal service claimed or established a domicile in another state. Sworn statements attesting to these conditions may be required. The spouse and dependent children of such individuals shall also be classified as residents of the State of West Virginia for tuition and fee purposes.

Persons assigned to full-time active military service in West Virginia and residing in the State shall be classified as in-state residents for tuition and fee purposes. The spouse and dependent children of such individuals shall also be classified as residents of the State of West Virginia for tuition and fee purposes.

6. *Aliens.* An alien who is in the United States on a resident visa or who has filed a petition for naturalization in the naturalization court, and who has established a bona fide domicile in West Virginia as defined in Section 2 may be eligible for resident classification, provided that person is in the State for purposes other than to attempt to qualify for residency status as a student.

7. *Appeal Process.* The decisions of the Dean of Admissions and Records may be appealed to the President of West Virginia University. The President may establish such committees and procedures as are determined to be appropriate for the processing of appeals. The decision of the President of West Virginia University may be appealed in writing with supporting documentation to the West Virginia Board of Regents in accord with such procedures as may be prescribed from time to time by the Board.

Regulations Affecting Degrees

Candidates for degrees are eligible for graduation when they complete the requirements in the college or school in which they are registered which were in effect at the time of their first registration in that college or school, provided they graduate within a period of seven years from the time of their first registration. Students who do not complete the requirements for graduation within seven years from their first registration must meet *all the conditions* of a later *Catalog* — one that will be no more than seven years old by the time they graduate.

If there are major changes in the *Undergraduate Catalog* during the student's course of study, the student does not have to abide by them unless they are promulgated by the Board of Regents, or by local, state, or federal law. However, by choice and with the approval of the adviser and the Dean, a student may meet *all the conditions* of a later *Undergraduate Catalog* than that under which the student first registered in that college or school.

University policy provides that in view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of WVU the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

All degrees are conferred by the Board of Regents upon recommendation of the faculties of the various colleges and schools. Degrees are granted at the close of the semester or summer session in which the students complete their work.

All candidates for degrees at WVU must report to their academic advisers and fill out an "Application for Graduation and Diploma." Application must be made during the first month of the semester or session in which the candidate expects to be graduated

Baccalaureate Degrees

Credits Required

In addition to the University requirements listed in this *Catalog*, each baccalaureate degree is conditional upon the completion of a specified number of semester hours of credit, as determined by the student's degree program requirements. Therefore, students must familiarize themselves with their school and degree program requirements.

English Composition and Rhetoric

Two semesters of English Composition and Rhetoric (English 1 and 2) are required of all candidates for the bachelor's degree in all colleges and schools of the University, unless part or all of the requirement for certain students of superior achievement is waived under regulations prevailing at the time of admission. Such students will be informed of their eligibility by the Coordinator of Writing Programs in English.

University Core Curriculum

To qualify for graduation, all WVU students must satisfy the requirements of the University Core Curriculum. The separate colleges and schools determine the time at which students take core courses during their total program of study at the University.

The purpose of the University Core Curriculum is to encourage the acquisition of a liberal education. A liberal education presupposes the capacity for synthesizing knowledge of the humanities, social sciences, natural sciences, and mathematics. Such a synthesis of both past and contemporary knowledge can make possible the intellectual flexibility needed to develop values, attitudes, tastes, and traits associated with the educated person in the modern world.

Three areas within the University Core Curriculum are recognized: *Core A* (the study of the accumulated knowledge and experience contained in world literature, fine arts, religion, and philosophy); *Core B* (the study of man's interaction with man and with society in the social, historical, political, economic, and similar contexts); and *Core C* (the study of mathematical and natural sciences designed to foster individual acquisition of knowledge and skills necessary for scientific inquiry).

Twelve credit hours including at least two subjects must be taken in each area. (Two 4-credit courses and one 3-credit course may be substituted in lieu of 12 credit hours.)

The determination as to whether ROTC courses will be counted toward fulfillment of the University Core Curriculum or will be counted as free electives is the prerogative of the department chairperson or dean of the appropriate college or school.

Core A Courses:

Art (Art) 3, 30, 100, 105, 106, 200.

English (Engl.) 21-22, 24-25, 35-36, 40, 45, 80, 85, 101-104, 106, 108, 111-113, 125, 130-134, 141, 143, 145, 150, 170-172, 175, 178, 180-181, 183, 186, 188, 191, 197, 201-202, 208, 210-211, 220, 223, 232-233, 235-236, 240-241, 245, 250, 255-256, 261-268, 280, 283, 288, 290, 294.

Foreign Languages:

Chinese (Chin.) 191.

Classics (Class.) 1-4, 11-14, 101-102, 109-110, 113, 165, 192.

Foreign Literature in Translation (FLIT) 111-112, 121-122, 131-132, 141-142, 151-152, 155, 161-162, 171, 181-182, 191-192.

French (Fr.) 1-4, 10-11, 21-24, 33-34, 101-104, 109-112, 115, 118.

German (Ger.) 1-4, 10-11, 23-24, 33-34, 103-104, 109-112, 121-122, 131, 191.

Hebrew (Hebrw.) 1-4, 191.

Italian (Ital.) 1-4, 109-110, 191.

Japanese (Japan.) 191.

Linguistics (Lingu.) 1-3, 111.

Polish (Polsh.) 1-2.

Portuguese (Port.) 1-4.

Russian (Russ.) 1-4, 103-106, 109-110, 144-145.

Spanish (Span.) 1-4, 10-11, 23-24, 33-34, 103-104, 109-110, 116-118, 121-122, 191.

Humanities (Hum.) 1-5, 10-11, 191, 290.

Multidisciplinary Studies (MDS) 40, 90, 91, 92.

Music (Music) 19, 30-31, 33-34, 61-68, 100, 102-103, 105, 110, 113, 115, 129-130, 135-138, 160, 171-172, 174, 200, 213, 218-219, 221-225, 230, 239, 243, 260, 263-268, 299.

Philosophy (Phil.) 1-292 (except Phil. 190).

Religious Studies (Relig.) 5-150, 197.

Speech Communication (Spch.) 11-14, 21, 80, 105-109, 111, 131, 133, 161, 180, 187, 191, 206, 221, 230-231.

Theatre (Theat.) 30, 50, 74, 95, 106, 180, 200, 220-221, 251, 282, 290-291, 295-298.

Women's Studies (Wm. St.) 40.

Core B Courses:

Child Development and Family Studies (CD&FS) 10, 12, 110.

Economics (Econ.) 51, 54-55, 110, 130, 160, 200, 211-213, 216, 241, 245-246, 250, 255, 257, 262-263, 270, 279.

Education Foundations (Ed. F.) 1.

Forestry (For.) 140.

Geography (Geog.) 1, 7-8, 105, 107, 109-110, 140-141, 143-145, 150, 200-202, 205, 209, 215, 235.

History (Hist.) 1-290.

Mineral Resource Economics (M.E.R.) 97.

Multidisciplinary Studies (MDS) 2, 40, 50, 60, 70, 90, 91, 92, 250. Note: MDS 80, "Special Topics," when offered as "Labor in America," may also be credited to Core B.

Political Science (Pol. S.) 1-279. (Note: Pol. S. 188-189, 191, 195-196, and 200 **are not** core courses.)

Psychology (Psych.) 1-282 (except Psych. 190, 213).

Sociology and Anthropology (Soc. & A.) 1, 5, 51, 102, 121-123, 125, 131-133, 135-136, 138, 140, 145, 151, 153, 156-158, 160, 201-202, 204-205, 222, 232-233, 240, 255, 260-262.

Sport and Exercise Studies (S.E.S.) 71.

Technology Education (T.E.) 280-281.

Women's Studies (Wm. St.) 40.

Core C Courses:

Agricultural Microbiology (Ag. Bi.) 141, 201.

Animal Nutrition (An. Nu.) 101.

Animal Physiology (An. Ph.) 100, 225, 256, 280.

Biology (Biol.) 1-271.

Chemistry (Chem.) 10-250.

Computer Science (C.S.). All Computer Science courses, except those numbered 190-197, qualify for Core C; however, the only undergraduate Computer Science courses open to non-majors are C.S. 5 and C.S. 60.

Economics (Econ.) 125, 220, 225.

Entomology (Ento.) 152, 204, 210, 212.

Genetics (Gen.) 171, 290.

Geology (Geol.) 1-4, 7.

Mathematics (Math.) 3-292.

Multidisciplinary Studies (MDS) 2, 60, 70, 90, 91, 92.

Nutrition (Nutrn.) 71.

Physical Science (P. Sci.) 1-2, 11-12.

Physics (Phys.) 1-283; Astronomy (Astro.) 106, 216, 267.

Statistics (Stat.) 101, 201-291.

Branch, Community, and Junior Colleges

Seventy-two hours of credits and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia system of higher education may be applied toward a baccalaureate degree at WVU. Transfer credit for college-parallel courses completed at other community colleges and junior colleges may not exceed 72 hours. Transfer credit from community colleges and junior colleges is normally limited to lower-division courses.

Requirements As to Residence

A student who comes to WVU from another college or university should transfer not later than the beginning of the third year. In no case will a student who matriculates in WVU later than October 1 in any year be permitted to receive a degree at the next commencement.

In special cases, students who desire to leave WVU at the close of their third year to enter another institution for the purpose of taking a combined course leading to two degrees or of preparing for graduate study, upon application beforehand to the Committee on Academic Standards of the college or school in which they are registered, may be permitted to do the work of the fourth year, or a part thereof, at such other institution and to receive the bachelor's degree from WVU upon presentation of the proper credits.

The transfer student whose undergraduate work has been altogether in institutions within the West Virginia state system of higher education must complete either the last 30 hours of work, or a minimum of 36 hours including 16 of the last 32 hours in residence. Other transfer students must complete either a total of at least 90 hours or the last 30 hours in residence at WVU. The transfer student may be required to earn up to 15 hours in the major field in residence regardless of the number of hours and the nature of the courses transferred.

Work Done Out of Residence

It is WVU policy to discourage the taking of regular residence courses in absentia. In the case of courses begun at WVU and not completed because of illness or for other acceptable reasons, however, permission to complete the work in absentia under the direction of regular WVU instructors may be granted by the Committee on Academic Standards of the college or school concerned; but in such case credit should be given only upon a report of a grade of no less than C on final examination. This regulation does not apply to WVU off-campus courses.

If the final grade of a student in any course is F, the student must take the course again in residence at WVU if the student desires to receive credit for it, unless the dean of the college or school authorizes the exception.

A student currently enrolled in WVU who wishes to obtain credit toward a WVU degree for courses offered at other institutions should obtain advance approval in writing from the adviser, dean, and the Dean of Admissions and Records. Some courses at some institutions are not directly transferable to WVU credit and, thus, the student runs the risk of losing such credit unless prior approval has been obtained. A student wishing to transfer credit from another institution should also be aware of the "Requirements As to Residence" and the specific degree requirements described elsewhere in this *Catalog*. Transfer credit from institutions outside the West Virginia state system will be accepted only for courses carrying a grade of C or higher when conditions indicated above have been met.

A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at WVU upon readmission to the University. After one semester of satisfactory performance (C average or better on a minimum of 12 credit hours earned during the regular semester or during the summer sessions) the appropriate transfer credit will be entered into the student's record upon certification by the adviser and dean that the above conditions have been met.

Substitution for Required Courses

A student who desires to substitute another course for any prescribed in the student's curriculum or required for the degree toward which the student is working must obtain permission for such substitution from the Committee on Academic Standards in the student's college or school.

Advanced Placement Credit

West Virginia University encourages students to work to their full capacity and to advance as rapidly as appropriate in their academic work. A number of opportunities are open to both qualified high school juniors and seniors, as well as to adults returning to school after an interval of work or military experience, to demonstrate competence beyond that normally associated with graduation from high school.

High school students who take college-level subjects offered in their schools in cooperation with the College Entrance Examination Board (CEEB) Advanced Placement Program should take the appropriate three-hour examinations administered by the Advanced Placement Service and have the scores sent to WVU. Credit for corresponding WVU courses will be given for high achievement on these tests.

Applicants for admission to the University, especially those who have gained a significant level of maturity through their life experiences, may gain college credit for their educationally related experiences through the College Level Examination Program (CLEP) of the CEEB. Policy of the West Virginia Board of Regents allows University credit to be awarded for successful completion of any of the CLEP Subject Examinations, except English composition, as well as allowing up to 34 hours of general education credit for successful performance on the CLEP General Examinations. Although the program is designed primarily for adults, exceptionally well qualified high school seniors may find it advantageous to seek advanced standing via the CLEP program. Interested applicants may write the Dean of Admissions and Records for further information regarding the CLEP program and WVU credit.

Advanced placement also may be granted for specific military experience. Returning veterans should consult the Dean of Admissions and Records for details.

After admission to WVU, students may elect to take examinations demonstrating their competence in particular course work. Credit or advanced placement is given for satisfactory completion of the tests. Students interested in challenging courses by examination should consult their advisers for procedures and details.

Credit by Examination

Students actively enrolled in WVU may receive credit for courses demonstrating competency in the content covered by a particular course. The department responsible for administering the course will determine the evaluation tools. Where skill and cognitive abilities are components of the course, both will be evaluated. Credit will be given if a satisfactory degree of competency is demonstrated.

A college, school, or department may require students desiring such credit to prepare a self-evaluation statement determining the degree of competency they possess and the methods by which it was achieved.

Students interested in receiving credit for a course by examination should consult the college or school in which the course is offered for procedures and details.

Credit for Correspondence Work

Credit up to a maximum of 30 semester hours for work completed by correspondence in nonlaboratory courses will be accepted by WVU when such work is given by accredited colleges or universities that accept work for credit toward their own degrees and whose residence work is accepted by WVU.

Second Bachelor's Degree

A student who has received one baccalaureate degree and wishes to receive a second baccalaureate degree must satisfactorily complete enough additional credits so that the total, including all acceptable credits earned at WVU and elsewhere, is at least 30 semester hours more than the number required for the first baccalaureate degree; all requirements, departmental and otherwise, of the second baccalaureate degree program must be satisfied. In no case will a second baccalaureate degree be awarded to a student who has not met the University residence requirement (see "Requirements As to Residence").

A student who wishes to receive simultaneously two baccalaureate degrees must satisfactorily complete a minimum of 158 credits and meet all requirements, departmental and otherwise, of both degree programs. Students desiring to receive simultaneous baccalaureate degrees must be admitted to both programs and provide the Office of Admissions and Records of the college or school approvals in writing.

(Effective Date: Students graduating after August 31, 1979.)

Visitors

Full-time University students may attend classes as visitors, provided they obtain the written permission of their advisers and of the instructors in classes they desire to visit. Members of the administrative or teaching staffs, or other regular employees of the University, may attend classes as visitors provided they obtain written permission of the chairpersons of their departments and of the instructors in the classes which they desire to visit.

No credit is given for work in such classes. Such persons may not obtain credit by advanced standing examinations in courses attended as visitors.

Auditors

Students may enroll in courses without working for grade or for credit by registering as auditors and by paying full fees. Change in status from audit to credit or from credit to audit may be made during the registration period. Attendance requirements for auditors shall be determined by the instructor of the course being audited. It is the prerogative of the instructor to strike the name of any auditor from grade report forms and to instruct the Office of Admissions and Records to withdraw the auditor from the class, if attendance requirements are not met.

Summer Sessions

There are two summer sessions, each of six weeks duration. The first session begins approximately the middle of May and ends June 30. The second session begins July 1, and ends the second week of August. Requirements for admission and character of the work offered are the same for the summer sessions as for the regular academic year.

Credit may be obtained toward the bachelor's, master's, and doctorate. Offerings are varied from summer to summer so that students may complete work for the master's degree by attending summer sessions only.

For complete information, see the *WVU Summer Sessions Schedule of Courses*.

Grade-Point Average

All academic units of the University require minimum standards of scholastic quality. Grade points are computed only on grades earned at WVU and at other institutions in the West Virginia state system of higher education. To be eligible for graduation, a student must have a grade-point average of 2.0 (C) or higher on all work for which the student receives grades (except W, WU, and P). In addition, specific degree programs may require minimum grades of C, or in some cases higher than C, in specific courses or portions of the baccalaureate program.

It is the student's responsibility to keep informed of the student's grade-point standing. This information may be obtained at any time from the dean of the college or school in which the student is registered.

Seventy-two hours of credit and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia system of higher education may be applied toward a baccalaureate degree at WVU. Transfer credit for college-parallel courses completed at other community colleges and junior colleges is normally limited to lower-division courses.

Graduation With Honors

The University recognizes distinguished academic achievement by awarding initial and second baccalaureate degrees *Summa Cum Laude*, *Magna Cum Laude*, or *Cum Laude*, to qualified students. The following regulations govern these awards:

1. Grade-point averages for graduation *Summa Cum Laude*, *Magna Cum Laude*, or *Cum Laude* shall be computed by starting with the student's penultimate semester or summer session and continuing in reverse chronological order until at least 80 semester hours, excluding credits earned with a grade of P, have been counted. If, in order to total the required number of hours it is necessary to include any part of a semester or summer session, the work of the whole semester or session shall be included.

2. Students who transfer to WVU may be eligible for graduation with honors based on the computational system stated above.

3. Subject to the above conditions, all candidates for a baccalaureate degree whose grade-point average is 3.8, or higher, shall be graduated *Summa Cum Laude*. Those whose average is lower than 3.8, but equal to or higher than 3.6, shall be graduated *Magna Cum Laude*. Those whose average is lower than 3.6, but equal to or higher than 3.4, shall be graduated *Cum Laude*.

4. Fitting recognition of graduation *Summa Cum Laude*, *Magna Cum Laude*, or *Cum Laude* shall be made on the candidate's diploma and in the Commencement Program.

(This policy became effective for all students whose first enrollment in an institution of higher education was on or after May 15, 1979.)

Students completing a second baccalaureate degree at the University are eligible to receive the honors distinction of *Summa Cum Laude*, *Magna Cum Laude*, or *Cum Laude*. The following regulations govern these awards:

1. Grade-point averages for graduation with honors shall be computed on the last 80 semester hours, excluding credits earned with a grade of P or S, completed at West Virginia University or a West Virginia Board of Regents institution.

2. At least 30 of the 80 semester hours must have been completed in the second degree program through the penultimate semester or summer session. The remainder of the 80 semester hours will be counted from the student's first baccalaureate degree program, counting in reverse chronological order from the semester or summer session of graduation. If, in order to total the required number of hours it is necessary to include any part of a semester or summer session, the work of the whole semester or session shall be included.

3. Subject to the above conditions, second baccalaureate degree students may be awarded the following honors recognition: *Summa Cum Laude*, provided a grade-point average of 3.8 or higher has been achieved in both the post-baccalaureate hours and the last 80 hours; *Magna Cum Laude*, provided a grade-point average of 3.6 or better has been achieved in both the post-baccalaureate hours and the last 80 hours; or *Cum Laude*, provided a grade-point average of at least 3.4 has been achieved in both the post-baccalaureate hours and the last 80 hours.

4. Fitting recognition of graduation *Summa Cum Laude*, *Magna Cum Laude*, or *Cum Laude* shall be made on the candidate's diploma and in the Commencement Program.

Examinations and Reports

Courses

As a rule courses extend through one semester only, although some are of a year's duration. No credit will be given for less than an entire course except by special order of the Committee on Academic Standards. Grades given at the end of the first semester in courses extending throughout the year are merely indicative of the quality of work done by the student to that point and do not give credit for the part of the course so far completed. Such first-semester grades may be considered in determining the final grade, however.

Summer sessions courses carry the same credit value as courses offered in the regular semesters.

Evaluation of Student Progress

Measurement and evaluation of learning, consistent with the objectives of the course, provide opportunity for the student and the teacher to evaluate progress through a variety of methods. Evaluation by final examination alone is discouraged.

Students are responsible for all materials presented or assigned in scheduled instructional sections. Failure to complete all assigned work may result in a report of I or a grade of F at the discretion of the instructor.

Final examinations are held during the last week of each semester of the academic year and during the last two days of each summer session. A listing in the *Schedule of Courses* each semester sets the time for final examinations.

The only tests permitted during the week of classes preceding finals will be in evening classes, practical laboratory tests, make-up examinations, and regularly scheduled short quizzes.

Absence From Examinations

The student is required to take all regular examinations. If a student attends a course throughout the semester and is absent from the final

examination without permission, the instructor shall count the examination as zero and report the final grade as F. If, in the opinion of the instructor, the absence of the student was for satisfactory reason, the grade of I may be reported.

A student who has been absent because of illness, authorized University activities, or other reasons approved by the student's dean, has the opportunity to make up regularly scheduled examinations.

Grade Reports

In the seventh week of classes of each semester, instructors in all undergraduate courses shall submit a report of students doing unsatisfactory work; that is, earning grades of D or F. These grades are used for counseling and are not recorded on the student's permanent record in the Office of Admissions and Records. These reports are sent to the Dean of Admissions and Records or a representative and this information is transmitted to the student, parent or guardian, adviser, and dean of the college or school.

Final grades are reported by instructors directly to the Office of Admissions and Records within 48 hours after the closing of the examination. The rule also applies to the final grades of all students registered in other colleges and schools of WVU who are enrolled in law courses

The final standing of all seniors provisionally approved for graduation at the close of the second semester shall be reported by their instructors to the deans of their colleges and schools, and the final standing of all graduate students provisionally approved for graduation shall be reported to the Associate Vice-President for Graduate Studies and Research. Special report cards are supplied by the Dean of Admissions and Records.

A report of each student's work is made at the close of the semester or summer session to the student or to the student's parents or guardian.

Grading, Absences, Academic Standing, Probation, Suspension, Reentry, Withdrawals

Grading System

- A — excellent (given only to students of superior ability and attainment)
- B — good (given only to students who are well above average, but not in the highest group)
- C — fair (average for undergraduate students)
- D — poor but passing (cannot be counted for graduate credit)
- F — failure
- I — incomplete
- W — withdrawal from a course before the date specified in the University Calendar. Students may not withdraw from a course after the specified date unless they withdraw from the University
- WU — withdrawal from the University doing unsatisfactory work
- P — pass (see Pass-Fail Grading below)
- X — auditor, no grade and no credit
- CR — credit but no grade
- PR — progress. Final grade at end of the second semester (Medical Center)
- S — satisfactory
- U — unsatisfactory (equivalent to F)
- *F — not eligible for D/F repeat policy

Pass-Fail Grading

The basic purpose of pass-fail grading for undergraduates at WVU is to promote the undertaking of elective courses unrelated to the student's fields of degree concentration. A secondary purpose of pass-fail grading is to facilitate student grading in performance or competency based courses which may be an integral part of the student's program.

Student Option. Any full-time student who has completed 15 hours and maintains a 2.0 grade-point average may elect to take a maximum of 4 hours each semester or each summer session in which the grade earned will be either P (pass) or F (fail). The courses taken for pass-fail grading must be free electives and shall not exceed a total of 18 hours of credit. Unless otherwise indicated, excluded are courses in the student's major, courses in other subjects that are required by the major, and courses taken to satisfy either University, college, or school requirements. For example, courses elected to satisfy the English, Core, or Foreign Language requirements may not be taken for pass-fail grading.

The student electing the pass-fail grading option will be graded as a regular student and the appropriate letter grade will be submitted to the Office of Admissions and Records. The Office of Admissions and Records shall convert the earned letter grade to P-F on the basis of A, B, C, or D for a pass, and F for a fail.

The selection of a course for pass-fail grading must be made at registration and may not be changed after the close of the registration period.

College or School Option. A department or unit may designate any performance or competency based course which, with the approval of the college or school and the Faculty Senate, may be offered exclusively as P-F. Such courses offered only as P-F shall not be included in the maximum of 18 hours that may be freely elected under the student option.

(This revised policy became effective as of the beginning of the First Semester, 1977-78, for grading under the Student Option.)

Grade Points

Grade points are based on the following grade-point values for each semester of credit:

A	B	C	D	F	I	U
4	3	2	1	0	0	0

The grade-point average is computed on all work for which the student has registered with the following exceptions:

(a) Courses with W, WU, P, S, and X.

(b) If an undergraduate student earns a grade of D or F in any course at WVU taken no later than the semester or summer session registration when a cumulative total of 58 hours has been attempted, and if this course is repeated in residence at WVU, one time only, the lower grade shall be disregarded for the purpose of determining the student's grade-point average, hours passed and hours attempted, and the higher grade earned for this course shall be used in determining the student's grade-point average, hours passed and hours attempted. The first grade recorded shall not be deleted from the student's record and the second grade will be entered marked repeat, in the semester when taken. The repeat shall be completed no later than the semester or summer session registration when a cumulative total of 70 hours has been attempted. (Effective Date: For students enrolled for the first time at West Virginia University for a session after May 15, 1979.) Provided, however, that

when a student receives a grade of I and later removes the incomplete grade, the average grade-point standing shall be calculated on the basis of the new grade.

If the final grade of a student in any course is F, the student must take the course again in residence at WVU if the student desires to receive credit for it, unless the dean of the college or school authorizes the exception. The grade of I is given when an instructor believes that the course work is unavoidably incomplete or that a supplementary examination is justifiable. The grade of I must be removed within the following semester or the next semester in which the student is in residence, and becomes a failure unless special permission is granted by the appropriate Committee on Academic Standards to postpone removal.

For teacher certification the student is responsible for every registration in a course for which a grade of A, B, C, D, F, WU, P, or I is received.

Absences

Students who are absent from class for any reason are responsible for work missed.

Students should understand that absences may jeopardize their grades or continuance in the course.

Instructors who use absence records in the determination of grades must announce this fact to students (in writing) within the first five class meetings.

It is the responsibility of the instructor to keep an accurate record of all students enrolled.

Instructors may report excessive absences to the student's dean or adviser.

Students who have been absent because of illness, authorized University activities, or other reasons approved by their deans, have the opportunity to make up regularly scheduled examinations.

Final Grade Appeals

Students have the right to appeal final course grades which they believe reflect a capricious, arbitrary, or prejudiced academic evaluation, or reflect discrimination based on race, color, creed, sex, or national origin. The grade appealed shall remain in effect until the appeal procedure is completed, or the problem resolved. The primary intent of this procedure is to provide a mechanism whereby a student might appeal a failing grade or a grade low enough to cause the student to be eliminated from some program or to require the repeat of a course. Grade appeals that do not meet this classification are not precluded. It is understood that an extension of time in the procedural steps may be granted students if in the professional judgment of the chairperson or the dean such an extension is warranted.

Appeal Procedure

Step 1. The student shall discuss the complaint with the instructor involved prior to the end of the succeeding regular semester, whether enrolled or not. If the two parties are unable to satisfactorily resolve the matter within two weeks, the student shall notify the chairperson of the instructor's department or division (or, if none, the dean). (The chairperson or dean will assume the role of an informal facilitator and assist the student and instructor in their resolution attempts.) If the problem is not resolved, the student may proceed directly to Step 2. If the instructor is not available, or if the nature of the complaint makes discussion with the instructor inappropriate, the student shall proceed directly to Step 2.

Step 2. The student must prepare and sign a document which states the facts constituting the basis for the appeal. Copies of this document shall be given to the instructor and to the instructor's chairperson (or, if none, to the dean). If, within ten working days of receipt of the student's signed document, the chairperson cannot resolve the problem to the satisfaction of the student and instructor involved, the complaint will automatically be forwarded to Step 3.

Step 3. Within one week of receipt of the complaint, the instructor's dean shall make a determination regarding the grade, making any recommendation for a grade change to the instructor involved. If the instructor involved does not act on the dean's recommendation, or if the student is in disagreement with the decision of the dean, the case will be referred to a representative body of the instructor's department or college or school for final resolution. The number and make-up of this body is to be determined by the appropriate dean. In cases of an appeal to this body, the faculty member involved shall receive written notification of the grade challenge which shall include a statement of the facts and evidence to be presented by the student in support of the charges made with sufficient clarity to reasonably disclose the claim for a grade change. The faculty member involved and the student making the appeal shall receive written notification that a hearing will be held before the department or college or school committee together with the notice of the date, time, and place of the hearing. The final decision of this body shall be forwarded to the instructor involved. If the decision requires a change of grade, the instructor shall take action in accordance with the committee's decision. If the instructor does not act within five days, the dean will make the necessary grade adjustment. Implementation of this decision shall end the appeal procedure.

Probation, Suspension, Reentry Policy

Uniform Probation

Any undergraduate student whose cumulative average is 2.0 or higher is in good academic standing in the University. Every baccalaureate degree requires a minimum grade-point average of 2.0 for graduation. (Nothing in this statement prevents a unit from requiring a minimum grade-point average above 2.0, or other academic requirements.)

Students whose cumulative grade-point average is below 2.0 will be notified on semester grade reports that their academic performance is unsatisfactory. Such students may be subject to probation by the dean of their college or school. Students are not on probation until notified, in writing, by their dean, who will establish the terms of their probation.

Uniform Academic Suspension Regulations

The student whose cumulative grade-point deficiency exceeds the "allowable grade-point deficiency" (see Table) is subject to suspension. Normally, students will be suspended only at the end of the academic year; students exceeding the maximum allowable grade-point deficiency at other times may be put on probation or otherwise warned. However, nothing in this provision shall prevent a dean from suspending a student at any other time of the year if the student's grade-point deficiency exceeds the allowable maximum.

Academic suspension identifies the status of a student who has failed to meet the University minimum standards and who has been notified formally by the dean of the college or school of academic suspension. Action on academic suspension is to be taken by the appropriate dean at the end of each

Maximum Allowable Grade-Point Deficiency*

<i>Total Hours Attempted**</i>	<i>Maximum Grade-Point Deficiency**</i>	<i>Total Hours Attempted**</i>	<i>Maximum Grade-Point Deficiency**</i>
0-19	20	55-59	12
20-24	19	60-64	11
25-29	18	65-69	10
30-34	17	70-74	9
35-39	16	75-79	8
40-44	15	80-84	7
45-49	14	85 or more	7
50-54	13		

*The grade-point deficiency is the difference between the number of grade points needed for a 2.0 average and the number of grade points that a student has actually earned in all courses attempted.

**Includes all hours attempted in institutions in the West Virginia System of Higher Education excluding grades of P, exclusive of the D-F Repeat Policy.

semester and such action is to be based on a special report from the Dean of Admissions and Records. The sequence of events in bringing about this action is:

1. The Dean of Admissions and Records will forward a special report at grade-reporting time to the college or school deans for appropriate action.

2. The Dean of Admissions and Records will provide the Vice-President for Academic Affairs and Research with a list of students subject to suspension in each college or school.

3. Deans will report to the Vice-President for Academic Affairs and Research the action taken on the students reported to them for academic suspension by the Dean of Admissions and Records.

Deans have the authority to waive suspension in favor of probation if in their judgment the circumstances of individual cases so warrant. The suspension rule will be set aside only under extraordinary conditions.

Suspension from the University means that a student will not be permitted to register for any classes, including those in summer sessions, offered by the University for academic credit until the student has been officially reinstated. The normal period of suspension is a minimum of one academic semester, but will not exceed one calendar year from the date of suspension.

Students who have been suspended may petition the Committee on Academic Standards of the college or school to which they wish to be readmitted in care of the dean. The normal periods for consideration of petitions are October 1-November 15 and March 1-April 15 of each academic year.

A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at WVU upon readmission to the University. After one semester of satisfactory performance (C average or better on a minimum of 12 credit hours earned during a regular semester or during the summer sessions) the appropriate transfer credit will be entered into the student's record upon certification by the adviser and dean that the above conditions have been met.

Readmission After Suspension

During the semester immediately following the effective date of suspension, suspended students may petition in writing for readmission. The college or school petitioned shall establish the terms of readmission for successful student petitioners.

After one calendar year from the effective date of suspension any student who has been once suspended shall, upon written application, be readmitted to the University, with the terms of readmission to be established by the college or school entered by the readmitted student.

A suspended student who is readmitted under the provisions above will be placed on academic probation and will be subject to the maximum grade-point deficiency regulations as before, unless the terms of probation agreed to by the student require otherwise. Each college or school will have the right to establish minimum levels of performance expectations.

(Effective: August 15, 1980, for all students.)

Withdrawals

Withdrawal From Classes

Deadlines: Until the Friday of the tenth week of class (or Friday of the fourth week in a six-week summer session, or Friday of the second week of a three-week summer session), students may withdraw from individual courses. Deadlines will be published in the *University Schedule of Courses* each semester.

Procedures:

1. Before withdrawing from individual classes, students are responsible for consulting their advisers to determine:

(a) Whether their course loads would be reduced below the minimum requirements set by their colleges or schools (if so, permission of the Committee on Academic Standards of the respective college or school is required *before* the course adjustment form may be submitted); or

(b) Whether their course loads would be reduced below the minimum number of hours required to qualify for special status, e.g., financial aid, varsity athletic competition, or international full-time student status; or

(c) Whether the courses to be dropped are required to fulfill academic probationary conditions; and/or

(d) Whether the courses from which they desire to withdraw might be

(1) Corequisite with other courses they are taking; or

(2) Prerequisite to other courses required for the next term.

2. Students must obtain adviser signatures on the University course adjustment forms and then submit the forms to the Office of Admissions and Records.

3. Students who withdraw from courses following all the established University procedures before the published deadline will receive a W on the transcript for the appropriate courses. Grade-point averages are not affected in any way by this mark.

Withdrawal From the University

Deadlines: Students may withdraw from the University *any time before the last day on which regular classes are scheduled to meet*. Students who withdraw from the University before the Friday of the tenth week of classes (or the Friday of the fourth week in a six-week summer session, or the Friday

of the second week of a three-week summer session) will receive grades of W in all their courses for that semester or session. Students who withdraw after these deadlines will receive grades of W in those courses in which satisfactory progress had been made; they will receive grades of WU for courses in which progress had been unsatisfactory.

Procedures:

1. Students who decide to leave WVU should withdraw from all classes and must do so in accordance with established University policy. Students are responsible for all *financial obligations* and for following established procedures, including the completion of forms and the delivery of the completed forms to appropriate officials. Students not fulfilling these financial obligations may have difficulty withdrawing from the University. The withdrawal becomes official only after the forms have been recorded by the Dean of Admissions and Records.

2. Students who are unable to withdraw in person because of illness, accident, or other valid reasons, still must send to the Office of Student Life notification of their intention to withdraw. The notice should be verified in writing and the student ID and PRT cards enclosed.

3. Students who desire to withdraw from WVU must obtain a withdrawal form from the Student Affairs office (or dean's office of an off-campus instructional unit). Withdrawal procedure will be explained at that time. Identification (ID) and PRT cards must be presented.

4. With the help of their academic advisers, students are responsible for determining how withdrawal from the University may affect their future status with the University, including such aspects as suspension for failure to make progress toward a degree or violation of established academic probation and eligibility for scholarships, fellowships, or financial aid.

Re-Enrollment After Withdrawal

An undergraduate student who withdraws from WVU in two consecutive semesters (excluding summer sessions) may not register for further work without approval of the dean of the college or school in which the student wishes to register and subject to conditions set by that dean.

Advisers, Committee on Academic Standards

Advisers

Each student entering WVU is assigned an adviser whose duty is to assist students in preparing schedules, assign them to classes, and certify their study lists to the Dean of Admissions and Records. The advisers are expected to give such advice and sympathetic guidance as the students may need in their work at the University. Students are expected to go freely to their advisers to discuss problems.

Advisers, upon receipt of reports of excessive numbers of absences, shall have conferences with the student concerned and shall make such recommendations and adjustments as are desirable and feasible. If the adviser does not find a satisfactory solution after a conference with the student, the case shall be reported to the dean of the college or school.

Committee on Academic Standards

The Committee on Academic Standards of each college or school shall have authority to proceed according to its best judgment in regard to students referred to it for consideration.

All orders of the committee shall become effective when approved by the dean of the college or school.

In exercising its authority the committee shall not suspend a student during a semester except for willful neglect and in cases where the student's class grades are so low that further class attendance would be a waste of time. No suspension shall become effective until approved by the dean of the college or school.

Academic Dishonesty

The academic development of students and the overall integrity of the institution are primary responsibilities of WVU. Academic dishonesty is condemned at all levels of life, indicating an inability to meet and face issues and creating an atmosphere of mistrust, disrespect, and insecurity. In addition, it is essential in an academic community that grades accurately reflect the attainment of the individual student. Faculty, students, and administrators have shared responsibilities in maintaining the academic integrity essential for the University to accomplish its mission.

Responsibilities

Students should act to prevent opportunities for academic dishonesty to occur, and in such a manner to discourage any type of academic dishonesty.

Faculty members are expected to remove opportunities for cheating, whether related to test construction, test confidentiality, test administration, or test grading. This same professional care should be exercised with regard to oral and written reports, laboratory assignments, and grade books.

Deans and department chairpersons are expected to acquaint all faculty with expected professional behavior regarding academic integrity, and to continue to remind them of their responsibility. Deans and department chairpersons shall assist faculty members and students in handling first-offense cheating allegations at the lowest possible level in the University, and with discretion to prevent damage to the reputation of any person who has not been found guilty in the prescribed manner.

Each member of the teaching faculty and all other WVU employees, including but not limited to assistants, proctors, office personnel, custodians, and public safety officers, shall promptly report each known case of academic dishonesty to the appropriate supervisor, department chairperson, or dean of the college or school concerned.

Academic Dishonesty Defined

Academic dishonesty is defined to include any of the following:

1. Plagiarism: Submitting for credit, without appropriate acknowledgment, a report, notebook, speech, outline, theme, thesis, dissertation, or other written, visual, or oral material that has been knowingly obtained or copied in whole or in part from another individual's academic composition, compilation, or other product, or commercially-prepared paper.

2. Cheating and dishonest practices in connection with examinations, papers, and projects, including but not limited to:

- a. Obtaining help from another student during examinations.
- b. Knowingly giving help to another student during examinations, taking an examination or doing academic work for another student, or providing one's own work for another student to copy and submit as his/her own.

- c. The use of notes, books, or any other source of information during examinations, unless authorized by the examiner.
 - d. Obtaining without authorization an examination or any part thereof.
3. Forgery, misrepresentation or fraud:
- a. Knowingly furnishing false statements in any University academic disciplinary proceeding.
 - b. Forging or altering, or causing to be altered, the record of any grade in a gradebook, office or other education record.
 - c. Use of University documents or instruments of identification with intent to defraud.
 - d. Presenting false data or intentionally misrepresenting one's records for admission, registration or withdrawal from the University or from a University course.

Procedure for Handling Academic Dishonesty Cases

1. Procedures for infractions of institutional academic standards, rules and regulations are published in the *University Catalog* and other written documents and are binding on all students.

2. Procedure for academic dishonesty including: plagiarism; cheating and dishonest practices in connection with examinations, papers and projects; and forgery, misrepresentation and fraud. Charges may be filed by any member of the academic community.

- a. *Step 1.* At the discretion of the student, faculty member, and chairperson of the department, some cases where there is an admission, in writing, of guilt by the student may be satisfactorily resolved at the departmental level. The maximum penalty at Step 1 is an F in the course. Whenever a penalty is administered, the facts of the case shall be reported in writing to the dean of the college or school, and a copy forwarded to the Office of Judicial Programs in Moore Hall for the permanent records.

In cases wherein cheating occurs in a college or school other than that in which the student is a degree candidate, the results of the case shall be reported to the dean of the college or school in which the student involved is enrolled.

- b. *Step 2.* When the student denies guilt, or the faculty member or department chairperson feels the penalties available at Step 1 are insufficient for a specific act, the dean of the college or school in which the course is offered shall be notified in writing of the specifics of the case. The dean shall then implement the following steps:
 - (1.) Formal notification to the student of the charges and the nature of the evidence, which if proved would justify action.
 - (2.) Opportunity for the student and witnesses to respond in writing, rebutting the charges.
 - (3.) Opportunity for the student to request that the case be forwarded by the dean to the University Conduct/Appeals Committee (Step 3).
 - (4.) If the student admits guilt in a signed statement to the dean, or is found guilty, the dean shall prescribe the penalty deemed appropriate. The dean shall promptly report thereon in writing to the Office of Judicial Programs. A copy of such report will also be forwarded to the dean of the college or school in which the student is enrolled. The purpose of this copy of the report is

to provide information in the event that further discipline or penalty may be deemed warranted by the dean of the college or school in which the student is a degree candidate. These records will be maintained by the dean(s) until the student graduates, at which time the records will be destroyed.

- c. *Step 3.* The University Conduct/Appeals Committee shall handle cases referred by a dean or requested by a student. The case must be heard using the University Conduct/Appeals Committee guidelines. The University Conduct/Appeals Committee shall present to the accused student and to the person making the accusation written notification of the charges, which shall include at least: (a) a statement that a hearing will be held before the University Conduct/Appeals Committee together with the notice of the date, time and place of the hearing; and (b) a clear statement of the facts and evidence to be presented in support of the charges made. If the University Conduct/Appeals Committee finds the student guilty, it will determine the penalty it deems appropriate under the circumstances and inform the student of its actions. The action taken by the University Conduct/Appeals Committee shall be final.

Criminal Act in Connection With Cheating

If a student admits in writing that he/she has been guilty of academic dishonesty or is found guilty of academic dishonesty by the University Conduct/Appeals Committee, in a case involving what is believed to be a criminal offense—such as theft of an examination or test materials, alteration of records, forgery, breaking or entering buildings, offices, desks, safes, or filing cabinets, damage to property, and other similar misconduct—the academic penalties and discipline as herein prescribed shall be applied. In addition, the facts of the case will be presented to the appropriate prosecuting attorney for further investigation and for such criminal or other action as may be warranted.

Dismissal From an Undergraduate Program

Dismissal from an undergraduate program based on program and/or professional performance standards other than cumulative grade-point average:

1. Reasons must be based on *Catalog* and other written documents describing academic performance standards and expectations.

2. *Procedural*

Step 1. Counseling by departmental committee or representative as soon as possible after discovery of problem.

Step 2. Second counseling by departmental committee or representative after opportunity to improve if performance has not changed sufficiently.

Step 3. Formal review of student's status by departmental or program committee to determine:

- a. Student retained or recommended for dismissal.

- b. Counseling or remediation steps required as a condition of retention.

- c. Appeals if recommended for dismissal.

Step 4. A dismissal decision by the dean of the student's school or college may be appealed to the University Conduct/Appeals

Committee which will hold a hearing. The student may be advised by a person of his/her choice in the hearing.

Step 5. A decision for dismissal must be reviewed by the appropriate academic Vice-President who may confirm or remand the recommendation with specific conditions for the review process.

Step 6. A recommendation for dismissal by the University Conduct/Appeals Committee confirmed by the appropriate academic Vice-President may be appealed to the President whose decision is final.

Dismissal From a Graduate Or a Professional Program

Dismissal from a graduate or professional program based on program and/or professional performance standards other than cumulative grade-point average:

1. Reasons must be based on *Catalog* and other written documents describing academic and professional performance standards and expectations.

2. Procedural

Step 1. Counseling by departmental committee or representative as soon as possible after discovery of problem.

Step 2. Second counseling by departmental committee or representative after opportunity to improve if performance is not changed sufficiently.

Step 3. Formal review of student status by department or program committee to determine:

a. Student retained or recommended for dismissal.

b. Counseling or remediation steps required as a condition of retention.

c. Appeals available if dismissal recommended.

Step 4. A dismissal decision by the dean of the student's school or college may be appealed to the University Conduct/Appeals Committee which will hold a hearing using the following procedures:

a. The student may be advised by a person of his/her choice to assure due process protection not to affect the outcome of the proceedings.

The adviser may consult with the student but shall not speak on behalf of the student or participate directly unless granted specific permission by the University Conduct/Appeals Committee.

b. The formal rules of evidence do not apply.

c. The administrative procedure is not adversarial in nature.

d. Witnesses may be presented and examined under oath.

e. An accurate record of the procedure is to be kept. The student may request a transcript of the proceedings at the student's expense.

f. An academic appeals committee has the right to counsel in those proceedings in which the student has retained counsel. Such counsel may not speak on behalf of the institution or otherwise participate directly in the proceedings.

Step 5. A decision for dismissal must be reviewed by the appropriate academic Vice-President who may confirm or remand the recommendation with specific instructions.

Step 6. Recommendation for dismissal confirmed by the appropriate academic Vice-President may be appealed to the President. The decision of the President is final.

WVU Medical Center/Basic Sciences Graduate Programs

Graduate degrees are offered by the School of Dentistry, School of Nursing, School of Pharmacy and the Department of Anatomy, Biochemistry, Microbiology, Pharmacology and Toxicology, Physiology, and Pathology (Medical Technology) in the School of Medicine. Brief guidelines and descriptions of these programs are described in this *Catalog*. For more detailed presentation of graduate programs, as well as the policies and rules governing graduate education, the *Graduate Catalog* should be consulted.

General Policies and Procedures

Medical Center Graduate Council

The Medical Center Graduate Council advises the Vice-President for Health Sciences. In this role the Council monitors and administers the graduate studies policies of the health sciences schools located at the Medical Center. The membership of the Council includes: Fred R. Butcher (Chairperson), Robert E. Stitzel and Irvin S. Snyder, School of Medicine; John W. Mauger, School of Pharmacy; James E. Overberger, School of Dentistry; Luz S. Porter, School of Nursing, and Darlene Taylor, Secretary of the Council.

Application and Admission

Application

Prospective graduate students are urged to initiate application for admission as early as possible. The first step of a student interested in a degree program should be to ask for information from the department, division, school, or college offering the program desired; the reply to such an inquiry will include instructions for applying to the particular program.

In all cases, application must be made for admission to graduate study on standard forms provided by the WVU Office of Admissions and Records. The completed form is to be returned to the Office of Admissions and Records, and must be accompanied by payment of a nonrefundable special service fee of \$20.00. Applicants must at the same time request the registrar or records office of the college of their baccalaureate degree to send an official transcript directly to the Office of Admissions and Records. If other institutions have been attended in the course of undergraduate or graduate study, transcripts should be requested from them as well. No one is admitted to graduate study who does not hold a baccalaureate degree.

If the applicant meets the minimum admission requirements of WVU, a copy of the application is forwarded to the faculty of the program of interest. Any graduate degree program is permitted to set admission requirements which go beyond the minimum admission standards of the University. No one can pursue an advanced degree at WVU unless admitted to the appropriate degree program.

Reapplication

When a student graduates or completes the program for which he/she applied, the student must reapply and be readmitted before taking further course work at WVU. This policy assures that the University is informed of

the student's objectives and that he/she is assigned an appropriate adviser. Students will be assessed the application fee for each new application.

When eight years have passed since initial course work, a student must reapply. The application fee will be assessed.

Classification of Graduate Students

1. *Regular.* A regular graduate student is a degree-seeking student who meets all the criteria for regular admission to a program of his/her choice. The student must possess a baccalaureate degree from a college or university, must have at least a grade-point average of 2.5 (on a 4.0 scale), have met all the criteria established by the degree program, and be under no requirements to make up deficiencies.

2. *Provisional.* A student may be admitted as provisional by any unit when the student possesses a baccalaureate degree but clearly does not meet the criteria for regular admission. The student may have incomplete credentials, deficiencies to make up, or may have an undergraduate scholastic record which shows promise, but less than the 2.5 grade-point average required for regular admission.

3. *Non-Degree.* A non-degree student is a student not admitted to a program. Admission as a non-degree student does not guarantee admission to any course or program. To be admitted as a non-degree student, a student must only present evidence of a baccalaureate degree, but the student must obtain a 2.25 grade-point average on the first 12 credit hours of course work and maintain this average as long as enrolled. To be eligible to enter a degree program, the student must maintain a minimum of a 2.75 grade-point average on all course work taken since admission as a graduate student.

Reclassification

1. Provisional to Regular

a. The provisions of a student's provisional status must be specified in the letter of admission.

b. To be reclassified as a regular student, a student must meet the provisions stated in the letter of admission and achieve a minimum grade-point average of 2.75 on all course work taken during the provisional period. Individual degree programs may set higher grade-point average requirements.

c. No later than the completion of the 18th credit hour, a unit must review the student's record and make a final decision on the student's admission. A student who has met the provisions of admission and achieved the required grade-point average will be reclassified as a regular student. A student who fails to meet the provisions of admission or who fails to achieve the required grade-point average will be suspended, but may be reinstated in order to transfer to another program or to non-degree status. The academic unit must notify the student and the Office of Admissions and Records of its decision.

d. Upon notification by the appropriate academic unit, the Office of Admissions and Records will prohibit the registration of all provisional graduate students who have reached the maximum of 18 credit hours. Registration will not be permitted until the student is reclassified as a regular student, an exception is granted by an academic dean, or the student is transferred.

e. A student may be admitted as a provisional graduate student more than one time, but not by the same graduate program.

f. All credit hours taken since admission as a provisional graduate student or to be applied to a degree count in the 18 credit-hour limit, i.e., undergraduate or graduate credit, P/F, S/U, graded courses, credit by senior petition, and transfer credit.

2. Regular or Provisional to Non-Degree

a. Regular and provisional students may become non-degree students by choice. This includes students who fail to meet admission or academic standards or who withdraw voluntarily.

b. To change a student to non-degree status, the adviser must process a Graduate Studies Transfer/Status form through the Medical Center Graduate Programs Office.

3. Non-Degree to Regular or Provisional

a. Non-degree students who later wish to become degree students must transfer and present all the credentials required by the degree program. This requires the processing of a Graduate Studies Transfer/Status form by the student's adviser through the Medical Center Graduate Programs Office.

b. For admission to a degree program, a non-degree student must have achieved a minimum grade-point average of 2.75 on all course work taken since admission as a graduate student.

Graduate Record and Other Examinations

Many programs at WVU require Graduate Record Examination (GRE) scores from all applicants, but in no program are they the sole criterion for admission. Some programs require both the general aptitude and the appropriate advanced test before considering an applicant for admission. All departments in the School of Medicine require that a student take the GRE test. The School of Pharmacy requires a student have the GRE.

Admission of International Students

International students wishing to enroll for graduate work at WVU must comply with the academic requirements for admission which have already been stated and with certain additional academic and nonacademic requirements as follows:

Early Inquiry and Application

International applicants should forward a letter of inquiry one year before the intended time of beginning study in the United States.

English Proficiency

All international applicants, the language of whose family and schooling was other than English, must present a composite score of at least 550 on the "Test of English As a Foreign Language" (TOEFL).

Credentials

See the *WVU Graduate Catalog*.

Intrauniversity Transfers

To transfer from one school/department to another a student may initiate a transfer request by contacting the Medical Center Graduate Programs Office or his/her adviser. The adviser must contact the Medical Center Graduate Programs Office which will complete transfer.

Credit Limitations

General

Credit toward a graduate degree may be obtained only for courses listed in the *Graduate Catalog*, and numbered 200-499, in which the grade earned is A, B, C, or S. No course in which the grade earned is D, P, F, or U can be counted toward a graduate degree.

Employed Graduate Students

Graduate students will be required by their advisers to limit their credit loads in proportion to the outside service rendered and the time available for graduate study. In general, persons in full-time service to the University, or other employer, will be advised to enroll for no more than 6 hours of work in any one semester and those in half-time service for no more than 12 hours. Maximum credit loads may be less for employed graduate students in some academic colleges, schools, and departments.

Non-Degree Graduate Students

A non-degree graduate student may accumulate unlimited graduate credit hours, but if the student is later admitted to a degree program, the faculty of that program will decide whether or not any credit earned as a non-degree student may be applied to the degree. Under no circumstances may a non-degree student apply more than 12 hours of credit toward a degree.

Transfer Credit

A student wishing to apply credit earned at another institution of higher education to a master's degree at WVU must obtain the standardized permission form from their department. This form requires the signature of the student's unit chairperson or designate. The student must also have an official transcript from the other institution sent to the Office of Admissions and Records. Only credit earned at institutions accredited at the graduate level may be transferred.

A maximum of 12 semester hours from other institutions will be accepted for credit at WVU in master's degree programs requiring 30 to 41 semester hours. Eighteen (18) semester hours will be accepted for master's degree programs requiring 42 or more semester hours. Individual graduate programs may accept fewer credit hours.

Completed permission forms are to be returned to the Medical Center Graduate Programs Office.

Time Limits

Master's Degree

All requirements for a master's degree must be completed within 8 years preceding the student's graduation.

Doctorate

The doctorate is a research or performance degree and does not depend on the accumulation of credit hours. The three requirements of the degree are admission to candidacy, residency, and completion and defense of the dissertation. The degree signifies that the holder has the competence to function independently at the highest level of endeavor in the chosen profession. Hence, the number of years involved in attaining or retaining

competency cannot be readily specified. Rather, it is important that the doctoral student's competency be assessed and verified in a reasonable period of time prior to conferral of the degree.

The qualifying examination is the method of assessing whether the student has attained sufficient knowledge of the discipline and supporting fields in order to undertake independent research or practice. It is expected that the examination will occur after all course work has been completed and language or other requirements satisfied, and it consists of a series of examinations covering all areas specified in the plan of study. After the component parts of the qualifying examination have been successfully passed, the student is admitted to candidacy for the degree. It is sometimes called the candidacy examination because no one can be called a doctoral candidate until this first requirement for the degree has been met.

Because the qualifying examination attests to the academic competence of the student who is about to become an independent researcher or practitioner, the examination should not precede the degree by too long a period of time. Consequently, doctoral candidates are allowed no more than 5 years in which to complete remaining degree requirements. In the event a student fails to complete the doctorate within 5 years after admission to candidacy, an extension of time can be obtained only by repeating the qualifying examination, and meeting any other requirements specified by the student's committee.

Contractual Nature of Graduate Study

The student's rights, privileges, obligations, and responsibilities are contained in the *Graduate Catalog*, the plan of study, and, if research is one of the degree program requirements, the prospectus. Although not contracts in the formal legal sense, they are agreements between the University and a student for the accomplishment of planned educational goals.

Plan of Study

Submit within the first academic year (18 hours for a master's and 30 hours for doctorate/after thesis committee for Nursing) to the Medical Center Graduate Programs Office.

The plan of study is subject to approval and is made a part of the student's record. It then becomes a formal agreement between student and program faculty as to the conditions which must be met for completion of the degree requirements. Any subsequent changes in plan of study (or prospectus) can be made only through mutual agreement.

Records in Medical Center Graduate Programs Office

The Medical Center Graduate Programs Office maintains all records for monitoring student progress and for certifying students for graduation. Among these records are: (1) plans of study (subject to chairperson of Medical Center Graduate Council's approval); (2) graduate committees (subject to school dean's or designate's approval and approval of the Medical Center Graduate Programs Office); (3) grades; (4) grade modifications, etc.

Grading

Pass/Fail grading is not applicable to the course work for a graduate degree. A graduate student may register for any course (1-499) on a Pass/Fail basis only if the course involved is not included in the student's plan of study

and does not count toward a graduate degree. The selection of a course for Pass/Fail grading must be made at registration and may not be changed after the close of the registration period. A student who, having taken a course on a Pass/Fail basis, later decides to include the course as part of a degree program must re-register for the course on a graded (A, B, C, D, or F) basis.

Incompletes

The grade of I is given when the instructor believes the course work is unavoidably incomplete or that a supplementary examination is justifiable. The grade of I must be removed within one academic year or made a permanent incomplete. Grade modification forms are to be signed by the instructor of the course, dean of the school of the course, and then brought to the Medical Center Graduate Programs Office for processing.

Grade changes other than I to a letter grade must be accompanied by an explanatory memo.

Theses and Dissertations

Procedural Rules

See the *West Virginia University Graduate Catalog*.

Students' Committees

Number of Committee Members

Doctoral dissertation committees will consist of no fewer than five members, the majority of which will be regular graduate faculty including the chairperson. No more than one person may be a non-member.

Master's committees of programs requiring a thesis will consist of no fewer than three members, the majority of which will be regular graduate faculty including the chairperson. No more than one person may be a non-member.

Master's committees of programs not requiring a thesis will consist of no fewer than three members, one of which must be a regular graduate faculty member. No more than one person may be a non-member, and the non-member cannot chair or advise.

Committee approval must be obtained prior to the second semester for a master's degree and prior to the fourth semester for the doctorate. Committee approval for the nursing program is after the third semester.

Committee approval forms are submitted to the Medical Center Graduate Programs Office.

Committee Approval

All graduate committees are subject to the approval of the school dean or designate and the Medical Center Graduate Programs Office.

Medical Center Basic Sciences— Programs and Courses of Instruction

The Departments of Anatomy, Biochemistry, Microbiology, Pharmacology and Toxicology, and Physiology offer individual graduate programs leading to the M.S. and Ph.D. degrees and provide courses for students of medicine, dentistry, pharmacy, nursing, and other allied health professions.

(Detailed information concerning graduate studies academic information is presented in the *WVU Graduate Catalog*.)

Anatomy

The Department of Anatomy offers graduate programs which are committed to the training of competent researchers and capable teachers. This is accomplished by the completion of a carefully designed plan of study tailored to the individual student's interests. The program begins with instruction in basic morphological, developmental, and functional aspects of human anatomy. Additional related course work and electives are required. These selected courses strengthen the area of interest of the student. The student then conducts an original research project which culminates in a dissertation (Ph.D.) or a thesis (M.S.).

Admission Requirements

In addition to the admission procedure of the University, the Department of Anatomy requests that each applicant complete a departmental application form obtained from the department. After an application is favorably reviewed by the departmental Graduate Studies Committee, applicants are invited for a personal interview whenever practical. The applicant is admitted by a majority vote of the departmental Graduate Faculty.

It is recommended that the following courses be completed before entering the graduate program: algebra, trigonometry, general physics, inorganic and organic chemistry, general biology or zoology, comparative anatomy, embryology, genetics, cell biology or general physiology, and two years of French, German, or Russian. At the discretion of the department, a student may be allowed to complete a limited number of prerequisites after enrolling in the program. A grade-point average above 3.0 is desirable. The aptitude portion and an advanced section of the Graduate Record Examination are generally required. Also, three letters of recommendation from persons who can best evaluate the applicant's potential for graduate study should either accompany the application or be mailed to the Department of Anatomy separately. Applicants desiring consideration for financial aid should complete the application process before January 15.

Doctor of Philosophy

The first year of study usually consists of required course work within the Department of Anatomy. These courses include gross anatomy, microanatomy, neurobiology, introduction to research, and seminar in anatomy. Required courses in other basic medical sciences, such as biochemistry and physiology, are usually taken in the second year. Twelve hours of additional graduate-level courses are also required. These

requirements will have been satisfied when the student earns a grade of at least B in each of the courses taken in the Department of Anatomy and has maintained a required 2.75 overall grade-point average.

To be admitted to candidacy for the Ph.D. degree the student must satisfy the above requirements, pass a written and oral comprehensive preliminary examination, and prepare a plan for a research project to be undertaken for the dissertation. To be recommended for the Ph.D. degree each student must complete a dissertation based on original research and defend the dissertation at an oral examination.

This program allows flexibility for each student. The precise plan of study is designed by the student and an Advisory Committee, which is composed of faculty members selected by the student.

The student often culminates the training period with presentations at regional and/or national scientific meetings.

Master of Science

The master's program in anatomy is offered as a terminal degree only for students in certain specialized fields, such as physical therapy or in a conjoint program in dentistry or medicine. It is not necessary for the student to complete the M.S. degree in order to qualify for admission into the Ph.D. program, although the student may elect to complete the requirements for this degree in progress toward the Ph.D.

An applicant who shows a special need for the M.S. degree must generally be as well qualified as applicants for the doctoral program. The M.S. student must complete courses in gross anatomy and microanatomy and 6 to 9 hours of required and elective courses. A 2.75 grade-point average must be maintained. In addition to course work, the student must complete a thesis based on original research and defend the thesis at an oral comprehensive examination.

Research and Instruction

Research Areas—Gross Anatomy: Anatomical variations and anomalies, and electromyographic studies of specific muscle groups. Microscopic Anatomy: Studies of cells, tissues, and organs, under normal and experimental conditions with *in vivo* microscopic, histochemical, electron microscopic, autoradiographic, and fluorescent techniques. Developmental Anatomy: Experimental and descriptive embryology, cellular differentiation, and dedifferentiation, regeneration and the effects of drugs and other environmental agents on development. Neuroanatomy: Experimental, comparative, and embryological studies of specific nerve cell groups and nerve pathways in the spinal cord, brain stem, cerebellum, and cerebrum.

Anatomy (Anat.)

101. *Principles of Human Anatomy.* (For paramedical students only.) I. 3-4 hr. PR: Biol. 2 or equiv.; consent of instructor or chairperson. Lectures and demonstrations on the gross and microscopic anatomy of the human body including development.
102. *Gross Anatomy.* (For physical therapy students.) II. 3 hr. PR: Anat. 101 and/or consent of instructor or chairperson. Functional gross anatomy of the back, extremities, head, and neck.
109. *Oral Histology.* (For dental hygiene students.) II. 3 hr. PR: Consent of instructor or chairperson. Histological structure and embryological development of the teeth, tissues, and organs of the oral cavity.

152. *Introduction to Physical Anthropology*. II. 3 hr. PR: Consent of instructor or chairperson. Man's physical heritage (human evolution) in principle and through paleontology, man's current physical nature (race and ecology), and biologic basis of man's culture. (Same as *Sociology and Anthropology* 152.)
301. *Gross and Developmental Anatomy: Trunk*. (For medical and a limited number of regular full-time graduate students in the medical basic sciences.) I. 5 hr. PR: Medical student standing or consent of chairperson. Gross anatomical study of the back, thorax, abdomen, pelvis, and perineum emphasizing clinically-related concepts.
302. *Gross and Developmental Anatomy: Head-Neck*. (For medical and a limited number of regular full-time graduate students in the medical basic sciences.) I. 3 hr. PR: Medical student standing or consent of chairperson. Gross anatomical study of the head and neck emphasizing clinically-related concepts.
304. *Gross and Developmental Anatomy: Extremities*. (For medical students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 2 hr. PR: Medical student standing or consent of chairperson. Gross anatomical and developmental study of the upper and lower limbs emphasizing clinically-related concepts.
305. *Microanatomy*. (For medical students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 5 hr. PR: Medical student standing or consent of chairperson. Cells, tissues, and organs.
306. *Gross Anatomy of the Trunk and Extremities*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 4 hr. PR: Dental student standing or consent of instructor or chairperson. Gross anatomical study of the back, upper extremities, thorax, abdomen, and pelvis.
307. *Gross Anatomy of the Head and Neck and Neuroanatomy*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 5 hr. PR: Dental student standing or consent of instructor or chairperson. Gross anatomical study of the head and neck and a brief gross and microscopic anatomical study of the central nervous system.
308. *Neuroanatomy*. (For students in physical therapy and a limited number of regular full-time graduate students in the medical basic sciences, and students in other health sciences.) II. 2 hr. PR: Consent of instructor or chairperson. Gross and microscopic structure of the central nervous system.
309. *Microanatomy and Organology*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 5 hr. PR: Dental student standing or consent of chairperson. Cells, tissues, and organs.
312. *Special Topics in Anatomy*. I, II. 2-4 hr. per sem. PR: Anat. 301 or 306; and Anat. 305 or 309; consent of chairperson. Different topics of current interest in anatomy that are not included in the regular graduate courses.
314. *Applied Anatomy*. I, II. 2-6 hr. per sem. PR: Consent of instructor or chairperson. Detailed study of anatomy adapted to the needs of the individual student.
315. *Craniofacial Osteology and Myology*. I. 3 hr. PR: Dental, medical, or graduate student standing or consent of instructor. Study of craniofacial embryology, morphology, and physiology with special emphasis on articulations and their clinical applications.
316. *Craniofacial Growth and Maturation*. II. 3 hr. PR: Anat. 315 or consent of instructor. The current concepts of craniofacial growth and maturation are presented and integrated for application to clinical problems.
318. *Oral Histology and Embryology*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 2 hr. PR: Dental student standing or consent of instructor or chairperson. Structure, function, and development of oral tissues.

375. *Neurobiology*. (For medical and limited number of regular full-time graduate students in the medical basic sciences.) II. 6 hr. PR: Anat. 301 and Physi. 345, or consent. Anatomy and physiology of the nervous system correlated with clinical neurology. (See also CC MD 375—Neurobiology.)
401. *Advanced Gross Anatomy*. I, II. 2-6 hr. per sem. PR: Anat. 301, 302, 304, or 306, 307 and consent of instructor or chairperson. Morphological and functional analysis of a selected region, with dissection.
402. *Advanced Developmental Anatomy*. II. 2-4 hr. per sem. PR: Anat. 301, 302, 304, and consent of instructor or chairperson. Detailed developmental anatomy of the fetal period and infancy. With dissections and analysis of variations and malformations.
403. *Seminar*. I, II. 1-6 hr. (1 hr. per sem.) (Course may be repeated.) PR: Consent of Graduate Committee. Special topics of current or historical interest.
405. *Experimental Embryology*. II. (Alternate Years.) 3 hr. PR: Embryology and cellular physiology or biochemistry and consent of instructor or chairperson. Development, differentiation, and regeneration.
406. *Advanced Neuroanatomy*. I. 2-4 hr. per sem. (Course may be repeated.) PR: CC MD 375 and consent of instructor or chairperson. Detailed study of selected areas of the nervous system.
408. *Histochemistry*. II. (Alternate Years.) 3 hr. PR: Anat. 305 or 309, biochemistry, and consent of instructor or chairperson. Histochemical theory and techniques.
451. *Advanced Microanatomy*. I, II, or S. 2-4 hr. PR: Anat. 305 or 309, or Biol. 263 and consent of instructor or chairperson. An extension of the major topics included in Anat. 305 or 309. Special emphasis on recent contributions.
491. *Advanced Anatomy*. I, II. 2-8 hr. PR: Consent of chairperson.
497. *Research*. I, II, S. 1-15 hr. PR: Consent of Graduate Committee. (May be repeated as needed with consent of Graduate Studies Committee.)

Biochemistry

Graduate programs in the Department of Biochemistry are designed to assist students in the development of their own capabilities for independent thought and research. All students are provided with a strong biochemistry background; however, the program has sufficient flexibility to allow individual students to select advanced specialty courses in biochemistry which are of particular importance to their career goals. Faculty research problems are of current interest and are diverse, reflecting the broad spectrum of areas encompassing biochemistry.

Admission Requirements

A prospective graduate student should hold a bachelor's degree with a science major and should have successfully completed courses in qualitative-quantitative chemical analysis, organic chemistry, calculus, physics, and physical chemistry. In some cases, a deficiency in the above may be made up after admission into the program.

Application is made by submission of the following items to the Department of Biochemistry: (a) the completed departmental application form (sent on request); (b) three letters of recommendation from professors who can evaluate the student's present abilities and potential; (c) official transcript of the applicant's college grades; and (d) official copy of Graduate Record Examination scores. Owing to the sequence of courses, entrance in the fall is preferred, but exceptions may be made as necessary. Application material and program details may be obtained by writing: The Graduate Coordinator, Department of Biochemistry, School of Medicine, West Virginia

University, Morgantown, WV 26506. The deadline for receipt of applications and supporting documents by the department is June 1; to be considered for financial support, applications should be submitted much earlier, preferably by February 1.

Doctor of Philosophy

To assure that all students become familiar with the basic principles of biochemistry, the first year of the Doctor of Philosophy (Ph.D.) program is devoted primarily to course work. In addition to formal courses during the first semester, students participate in a laboratory program which involves all faculty members. This laboratory experience is designed to illustrate the basic research skills involved in biochemistry. During the second semester, students will undertake research in at least two laboratories of their choice. During the second year, the students are also given monthly cumulative examinations, designed to assure the faculty that the students are developing a working knowledge of the field of biochemistry appropriate to a doctoral candidate. Students are required to pass 16 of 24 cumulative examination questions during this period to fulfill the written examination requirement for the Ph.D.

Upon successful completion of the first year, students will choose a dissertation research adviser, at which time emphasis will be placed on research. During the second year, specialized courses in biochemistry will be offered as the students continue their research programs. During subsequent years, the students emphasize independent thesis research, and a few formal courses are taken.

An essential component of the Ph.D. program is participation in departmental journal clubs and seminars. Both students and faculty participate, thus students learn to effectively organize and present research material to a large group of people.

Completion of the Ph.D. program is realized when the student successfully presents the research results to both the Department of Biochemistry and a graduate advisory committee. Typically, four years are required to realize this goal.

Master of Science

The Department of Biochemistry offers the thesis master's degree. This program involves completion of a master's research project in addition to formal course work. The program for this degree is essentially identical to that for the Ph.D. program; however, only 6 of 12 cumulative examination questions must be passed, and thesis-level research completed.

Research and Instruction

Research Areas—Hormonal regulation of metabolism. Structure and function of nucleic acids. Chemistry of enzymes and serum proteins. Structure of connective tissue. Nutritional oncology. Secretory mechanisms. Biogenesis of membranes. Regulation of gene expression.

Biochemistry (Bioch.)

139. *Introduction to Biochemistry*. I. 4-5 hr. PR: General chemistry. (For medical technology and pharmacy students; others by consent.) Lecture and conference, 4 hr.; Laboratory, 1 hr.
192. *Selected Topics in Biochemical Research*. I, II, S. 1-6 hr. (May be repeated for a maximum of 12 hr.) PR: Consent.

231. *General Biochemistry*. I. 7 hr. PR: General chemistry, organic chemistry. (For medical students; others by consent.) Consists of seven main lectures, one clinical correlation lecture and one problem session per week.
239. *Clinical Chemical Techniques*. II. 4 hr. PR: Bioch. 139, 231 or equiv. (Primarily for medical technology students; open to other qualified students by consent.)
305. *General Biochemistry*. II. 4 hr. PR: Inorganic chemistry, organic chemistry, and consent. (For dental and graduate students.) Lecture, conference, and demonstration.
- 310/312. *General Biochemistry*. (Offered in conjunction with the Department of Agricultural Biochemistry.) I, II. 4 hr. per sem. PR: General chemistry, organic chemistry. (For graduate students in basic sciences programs.)
399. *Special Topics*. I, II. 1-2 hr. PR: Consent.
491. *Advanced Study*. I, II. 3 hr. PR: Consent. Physical techniques in biochemistry; nucleic acids; enzymology and protein chemistry; metabolic regulation (each topic—one semester; offered alternate years). Designed primarily to provide a background for students who will do research in biochemistry and molecular biology. (*Nucleic Acids*—Fall, 1985; *Physical Techniques*—Spring, 1986.)
496. *Graduate Seminar*. I, II. 1 hr. PR: Consent. Presentation and discussion of special topics.
497. *Research*. I, II, S. 1-15 hr. PR: Consent.

Conjoined Basic Sciences Courses

In the curricula of the School of Medicine, certain courses are conducted on nondepartmental or interdepartmental lines. These have been designed as Conjoined Courses.

Conjoined Basic Sciences Courses (CC MD)

320. *Electron Microscopy*. II. 2-4 hr. PR: Consent. (For graduate students, upperclass students in the sciences, medical students.) Interdisciplinary. Introduction to cell fine structure and function. Preparation of biological specimens for electron microscopy.
350. *Radiation Safety and Isotope Usage*. II. 1-2 hr. PR: Phys. 1 and 2, Chem. 15 and 16 or consent. Chemical, physical, and biological aspects of radiation; safety; handling and storage of radioactive materials; ERDA (formerly AEC) and WVU regulations and licensing; detection and instrumentation, research, and clinical use of radioisotopes.
370. *Medical Genetics*. II. 2-4 hr. PR: Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as Gen. 370, Med. 370, Pedia. 370.)
375. *Neurobiology*. (For medical and a limited number of regular, full-time graduate students in the medical basic sciences.) II. 6 hr. PR: Anat. 301 and Physi. 345, or consent. Anatomy and physiology of the nervous system correlated with clinical neurology.
399. *Selective Experiences in Medicine*. (Fourth Year.) I, II, S. CR. PR: Satisfactory completion of the first three years of medical curriculum. (Graded as S or U.) The selective program for fourth-year medical students offers a wide range of opportunities in the basic sciences, medical specialties and sub-specialties, in family medicine, and in community medicine. The year is composed of eleven 4-week blocks. Six must be spent at the WVU Medical Center in Morgantown and approved programs at the Charleston Division, WVU Medical Center; the Wheeling Division, School of Medicine; and the Veterans Administration Hospital, Clarksburg. The remainder may be spent at community hospitals in

West Virginia, or at university or university-affiliated hospitals out-of-state. Each student plans the individual program, with faculty advice. Flexibility is permitted. With consent of the instructors concerned, the student may, during the year, alter the selective choices. The student must give five weeks' notice before changing an intramural or extramural selection. (*See intramural and extramural folders, published annually, that describe the selective opportunities.*)

Microbiology

The Department of Microbiology offers programs of study leading to the degrees of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in Medical Microbiology. The basic philosophy of the department is that the students have a strong foundation in basic concepts of microbiology and flexibility in choosing advanced course work in their specific areas of interest. The students are given extensive training in microbiological research methodology. The overall aim of the program is to produce students capable of teaching microbiology and designing and doing independent research in microbiology.

Admission Requirements

Applicants must have had at least four upper-level courses in the biological sciences, two semesters of organic chemistry, two semesters of physics, and a strong background in mathematics—including calculus—in order to be considered for admission. Applicants must submit to the Department of Microbiology a departmental application form, three letters of recommendation, and Graduate Record Examination (GRE) scores—both aptitude and advanced. In addition, transcripts and an official application for admission must be sent directly to the WVU Office of Admissions and Records, P.O. Box 6009, Morgantown, WV 26506-6009. Applicants for admission to a degree program should have a grade-point average of 3.0, or better, and a score of 600 or above on each of the GRE examinations. Early application is encouraged. Applicants desiring financial aid should complete their application before January 1. All applications must be completed by June 1 for fall admission. Applications for admission in the spring semester must be completed by November 1.

Program Requirements

Master of Science (M.S.)

Every student must take courses or demonstrate proficiency by examination in each of the following areas: M. Bio. 310 (Structure and Activities of Microorganisms), M. Bio. 317 (Special Problems in Basic Immunology). At least 3 hours of credit in one or more of the following M. Bio. 491 courses must be completed: Genetics, Immunobiology, Microbial Physiology (including laboratory). The student must also enroll in M. Bio. 391—Advanced Topics. Two semesters of biochemistry are required. The remainder of the course work is selected by the student and the advisory committee from the following courses: M. Bio. 301, 327 or from any of the M. Bio. Advanced Study courses (M. Bio. 491). M. Bio. 496—Seminar is a required course each semester the student is in residence. All full-time students in the Department of Microbiology are required to participate in teaching at least one semester a year.

The Master of Science program requires 30 hours course work of which at least 20 hours must be in microbiology. Six hours must be in research (M. Bio. 397). A thesis representing original research and a final oral examination are

required. A grade-point average of at least 3.0 must be maintained. In general, two years are needed to complete the M.S. program.

Doctor of Philosophy (Ph.D.)

The Doctor of Philosophy candidate must demonstrate knowledge in microbiology and biochemistry equivalent to that of an M.S. student. In addition, appropriate course work as determined by the student's research advisory committee with a grade-point average of 3.0 is required. Where appropriate, course work in related subjects such as computer science, physical chemistry, and statistics will be required. M. Bio. 496—Seminar is a required course each semester that the student is in residence. The Doctor of Philosophy program requires a dissertation representing the results of an original research investigation and passing of qualifying and final oral examinations. All full-time students are required to participate in teaching at least one semester a year. Three years are usually needed to complete the Ph.D. program.

Other

The Department of Microbiology has informal noon-hour journal clubs in immunology and in microbiology. All students are expected to participate in one or more.

For additional information write to the Chairperson, Department of Microbiology, WVU Medical Center, Morgantown, WV 26506.

Research and Instruction

Research Areas—Pathogenic Bacteriology: mode of action of microbial products in pathogenicity; identification and classification of anaerobic microorganisms including filamentous bacteria; oral microbiology; ecology of the oral cavity; clinical microbiology. Mycology: pathobiology of medical mycoses; environmental health implications of fungal and algal toxicoses. Physiology: nutrition and metabolism of a variety of pathogenic microorganisms; growth and protein synthesis in obligate intracellular bacteria. Genetics: basic studies on the mechanisms of genetics including transfer of genetic information; recombinant DNA studies. DNA probes for/and sequencing of aminoglycoside genes. Virology: development of rapid viral diagnostic test, molecular biology of papilloma viruses and relationships to laryngeal disease; bacteriophage-host interactions. Parasitology: host-parasite relationships between helminth parasites and insects and vertebrate hosts; endosymbionts in protozoa. Immunology: studies on the mechanisms of antigen-antibody reactions and the development of hypersensitivity; immunopathology of pulmonary disease; mechanisms of cellular immunity. Other programs: detection of environmental pollutants; effect of environmental agents on host resistance.

Microbiology (M. Bio.)

- 26. *Microbiology*. (For students in nursing-dental hygiene programs.) I. 4 hr. PR: Chem. 11, 12 or equiv.
- 220. *Microbiology*. (For pharmacy students.) II. 4 hr. PR or Conc.: Biochemistry. Pathogenic microorganisms, including immunology and antimicrobial agents.
- 223. *Microbiology*. (For medical technology students; graduate students with consent.) II. 5 hr. PR or Conc.: Organic chemistry. Basic microbiology. Emphasis on immunology, pathogenic microorganisms, and clinical laboratory techniques.

224. *Parasitology*. (For medical technology students.) II. 4 hr. Study of animal parasites and disease vectors with emphasis on disease manifestations, parasite biology, and laboratory diagnosis.
301. *Microbiology*. (For medical students only.) I. 5-7 hr. PR: Organic chemistry, biochemistry. Detailed study of pathogenic microorganisms. Emphasis on use of microbiology in solving clinical problems.
302. *Microbiology*. (For dental students only.) I. 5 hr. PR: Organic chemistry. Detailed study of pathogenic microorganisms. Emphasis on oral flora.
310. *Structure and Activities of Microorganisms*. I. 2 hr. PR or Conc: Biochemistry; consent. Structure and function of microbes.
317. *Special Problems in Microbiology*. I, II, S. 1-7 hr. per sem.
A. *Special Problems in Basic Immunology*. I. 2 hr. PR or Conc.: M. Bio. 310; biochemistry; consent.
B. *Special Problems in Microbiology*. I, II, S. VR. PR: Consent.
327. *Parasitology*. (For graduate students.) II. 4 hr. PR: Consent. Study of animal parasites and disease vectors with emphasis on disease manifestations, parasite biology, laboratory diagnosis, and current concepts in parasitological research.
391. *Advanced Topics*. I. 3 hr. PR: Consent. Assigned study to develop research laboratory techniques. (*Graded as S or U.*)
397. *Master's Degree Research or Thesis*. I, II, S. 1-15 hr. PR: M. Bio. 310, 317A, 399. Students may enroll more than once. (*Graded as S or U.*)
490. *Teaching Practicum*. I and II. 1-3 hr. PR: Consent. Supervised practices in college teaching of microbiology. (*Graded as S or U.*)
491. *Advanced Study*.
Pathogenic Virology. I. 3 hr. PR: M. Bio. 310 and 317A or equiv., consent. Pathogenesis of medically important viruses and mechanisms for their control.
Pathogenic Bacteriology. I. 3 hr. PR: M. Bio. 317A or equiv., consent. Pathogenic bacteriology, with an emphasis on the mechanisms of pathogenesis. Topics include microbial adherence, toxin production and mechanisms, and normal flora and disease.
Clinical Laboratory Bacteriology. I, II. VR. PR: M. Bio. 310, 317A or equiv., consent. Lectures on the identification of pathogenic microorganisms with an emphasis on bacteria. Laboratory includes a rotation through the hospital clinical microbiology laboratory. Limited enrollment. (*Graded as S or U.*)
Microbial Genetics. I. 4 hr. PR: M. Bio. 310 or equiv., consent. Molecular aspects of mutation, gene transfer mechanisms, genetic mapping, and genetic control using bacteria and bacteriophage systems as models.
Microbial Metabolism. II. 2 hr. PR: M. Bio. 310, biochemistry, consent. Physiology, metabolism, and regulation of representative microbial groups. (*Course will not be offered in 1985-86.*)
Microbial Metabolism Laboratory. II. 1 hr. Open to departmental graduate students only. Research techniques in metabolic regulation. (*Course will not be offered in 1985-86.*)
Immunobiology. II. 2 hr. PR: M. Bio. 317A or equiv., consent. Discussion of the biological and cellular aspects of immunology. Immunobiology, immunopathology, and cellular immunology receive strong emphasis. (This course is designed to complement Bioch. 423.)
Medical Mycology. I. 4 hr. PR: Consent. Advanced study of the fungi of medical importance, including the pathobiology of mycoses and toxicoses. (*Course will not be offered in 1985-86.*)
Tumor Virology. II. 3 hr. PR: Biol. 315 or equiv., consent. A consideration of the molecular and biochemical aspects of viruses which cause tumors and the mechanisms by which they cause cellular transformation. (*Course will not be offered in 1985-86.*)

Clinical Laboratory Virology. S. 3 hr. per 6-week session. PR: M. Bio. 491 (Pathogenic Virology) or equiv.; consent. Lectures and laboratories on isolation of viruses from clinical specimens. Includes serological methods.

496. *Seminar*. I, II. 1 hr. PR: M. Bio. 310 or equiv. (Graded as S or U.)

497. *Ph.D. Research or Dissertation*. I, II, S. 1-15 hr. Students may enroll more than once. (Graded as S or U.)

Pathology

Research Areas—Atherosclerosis; thrombosis; platelet aggregation and functions with correlative ultrastructural study, lipid and lipoprotein metabolism in cultured human endothelial cells; morphometric (including electron microscopic) and biochemical studies on the progression of atherosclerotic lesions in humans; regression of experimental atherosclerotic lesions; ultrastructural aspects of renal disease; ultrastructural reflections of dedifferentiation in neoplasia; histogenesis of neoplasia; biomedical application of laboratory medicine; and applied laboratory studies in microbiology.

Pathology (Path.)

128. *Introduction to Basic Pathology*. I. 2 hr. PR: Enrollment in dental hygiene or physical therapy, or consent. A study of the basic pathologic processes in man.

129. *Introduction to Oral Pathology*. II. 3 hr. PR: Path. 128, dental hygiene major, or consent. Application of fundamental knowledge of general pathology to pathological conditions that occur in the oral cavity.

328. *Basic Pathology*. (For dental students and graduate students, with consent.) II. 5 hr. PR: Anat. 309. General changes in basic pathologic processes and changes evoked in specific organ systems as a basis for understanding clinical disease.

338. *Oral Pathology 1*. II, S. 3 hr. PR: Path. 328, or consent. Clinical, radiographic, and microscopic discussion of local and systemic diseases affecting oral and paraoral structures.

350. *Hematology*. 3 hr. (For certain graduate students, with consent of the chairperson.) Includes morphologic description of formed elements of blood including classification of red blood cell, white blood cell, and platelet disorders. Case material and slide reviews are integral parts of the course work.

351. *Pathology and Laboratory Medicine 1*. (For medical students and limited number of regular full-time graduate students in medical basic sciences and consent of the chairperson.) I. 8 hr. PR: Medicine I Curriculum. Presents pathology as a body of knowledge and a discipline, including laboratory aspects of disease. General pathology, including cell injury, inflammation, neoplasia, thrombosis and circulatory disturbances, is followed by a systemic approach to disease states.

352. *Pathology and Laboratory Medicine 2*. (For medical students and limited number of regular full-time graduate students in medical basic sciences and consent of the chairperson.) II. 7 hr. PR: Path. 351. Continuation of Path. 351.

353. *Oral Pathology 2*. I. 2 hr. PR: Path. 338; consent. Continuation of Path. 338.

355. *Oral Disease Diagnosis and Management*. (For dental students, third year.) II. 1 hr. PR: Path. 338, 353, consent. Oral and systemic diseases are presented clinically, radiographically, and histologically. Diagnosis is established and treatment arrived at through group discussion.

356. *Advanced Pathology*. I, II. 3 hr. PR: Path. 328 or 351; consent. Microscopic and gross specimens from selected autopsies.

382. *Oral Histopathology*. I, II. 1-2 hr. PR: Path. 338, 353, consent. Microscopic study of head and neck lesions.

401. *Special Studies in Oral Pathology*. I, II. 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.
491. *Advanced Study*. 1-3 hr. PR: Consent. Specialized study in subspecialty, such as blood banking, clinical chemistry, immunopathology. (*Special lectures and/or seminar.*)
497. *Research*. I, II. 1-15 hr. PR: Consent.

Pharmacology and Toxicology

Pharmacology and Toxicology involve all aspects of the action of drugs on living systems and their constituent parts. These range from the chemical reactions taking place within cells to the evaluation of a drug in the treatment of human disease. The Department of Pharmacology and Toxicology offers graduate studies leading to the degrees of Master of Science and Doctor of Philosophy, with research concentrations in such areas as autonomic pharmacology, biochemical pharmacology, neuropharmacology, psychopharmacology, molecular pharmacology, cardiovascular pharmacology, endocrine pharmacology, pharmacogenetics, malarial chemotherapy, immunotoxicology, and renal, hepatic, and pulmonary toxicology.

Admission Requirements

Regular applicants for the graduate program in pharmacology and toxicology should present, as a minimum, the following undergraduate courses: one semester of biology; two semesters of physics; one semester of calculus; five semesters of chemistry including two semesters of organic chemistry and one semester of physical chemistry. Reading knowledge of at least one foreign language is strongly recommended. Three letters of recommendation from science professors, an official transcript, and the results of the Graduate Record Examination—including the advanced test in either chemistry or biology—are also required. The prospective student should have a minimum 3.0 overall grade-point average at the undergraduate level.

In general, students requesting financial support should have all credentials forwarded by February 1. For additional information write: Director of Graduate Studies, Department of Pharmacology and Toxicology, WVU Medical Center, Morgantown, WV 26506.

Master of Science

Ordinarily the department does not accept graduate students solely into a master's program. However, the master's degree is offered and is available as an intermediate degree en route to the Ph.D. Its primary function, as viewed by the faculty, is as an aid to the student new to research for the formulation, conduct, and writing of an abbreviated, but complete, independent research project (thesis). The course work requirements for the M.S. in pharmacology and toxicology usually consist of Physiology 342, 344, and 345, Biochemistry 231, Statistics 311, Pharmacology and Toxicology 361, 363, 364, 461, 462, and 497. Most students may, with the faculty's concurrence, choose to proceed directly with their doctoral research without a master's degree. These students must submit a comprehensive progress report on their research in lieu of a thesis.

Doctor of Philosophy

Before official admission to candidacy for the doctorate, the student must satisfactorily complete a grant writing exercise, an acceptable progress report, and an oral comprehensive qualifying examination. When a student has submitted a grant proposal, a committee—ordinarily consisting of at least three members of the Department of Pharmacology and Toxicology and two members from outside the department—is appointed and constitutes the oral examining body. The oral qualifying examination will be administered in January of the student's third year in the program.

Dissertation

Upon admission to candidacy for the degree of Doctor of Philosophy, the candidate must select a topic for the dissertation under the direction of the candidate's adviser, complete a dissertation that makes a contribution to knowledge in the candidate's area of concentration, and pass an oral examination based primarily upon the dissertation. After successful completion of the oral examination and submission of the final copy of the dissertation, the candidate will be recommended for the degree.

Research and Instruction

Research Areas — Autonomic pharmacology: Autonomic regulation of the cardiovascular system and of smooth muscle; sensitivity to autonomic drugs; electrophysiologic studies of cardiac and smooth muscle; synthesis, storage, release, and metabolism of transmitters and adrenal medullary hormones. Chemotherapy: Antimalarial agents, anticancer agents, effects of pharmacological agents on single cell organisms. Biochemical pharmacology: Drug metabolism, effects of drugs on lipid and nucleic acid metabolism. Endocrine pharmacology: Mechanism of action of steroids, metabolism of sex accessory tissues, relationship of hormones to tumor growth and development. Neuropharmacology: Biochemical basis of epilepsy, mechanism of action of anticonvulsant drugs, neuromediators in the central nervous system. Toxicology: Metabolism of toxic agents, pulmonary toxicology, renal toxicology, immunotoxicology, and environmental toxicology, perinatal pharmacology and toxicology. Electron microscopy: Effects of drugs on the ultrastructure of cells.

Pharmacology and Toxicology (Pcol.)

160. *Pharmacology*. (For undergraduate students in the paramedical sciences.) II. 3 hr. Interactions of clinically useful therapeutic agents with the mammalian system.
243. *Pharmacology for Pharmacy Students*. I. 4 hr. PR: Completion of first year in Pharmacy; approval of course director. Principles, pharmacodynamic actions, and therapeutic applications of clinically useful drugs.
360. *Pharmacology and Therapeutics*. (For dental and graduate students.) I. 4 hr. PR: Dental student standing or consent. Lecture and demonstrations on pharmacological actions and therapeutic uses of drugs.
361. *Pharmacology*. (For medical students and a limited number of regular, full-time graduate students in medical basic sciences departments.) II. 6 hr. PR: Consent of department chairperson. Lecture-conference-laboratory on principles, pharmacodynamic actions, and therapeutic applications of clinically useful drugs.
362. *Occupational Toxicology*. II. 3 hr. PR: Consent. General principles of toxicology with special emphasis on occupational health. Classes of chemicals which pose problems in the work place will be emphasized.

363. *Toxicology*. II. 3 hr. PR: Consent. Theoretical concepts and general principles of toxicology with special emphasis on biochemical and molecular mechanisms of chemical toxicity.
364. *Advanced Pharmacology*. I. 1-4 hr. PR: Pcol. 361 or consent. Advanced lectures and discussion of general principles of pharmacology and toxicology including physiochemical properties, absorption, distribution and metabolism of drugs, drug receptor theory, and molecular mechanisms of toxicity. (*Offered every third year; next offering 1987-88.*)
365. *Advanced Pharmacology*. I. 1-4 hr. PR: Pcol. 361 or consent. Advanced lectures and discussion of specialized areas of pharmacology and toxicology including renal, endocrine, pulmonary, and cardiovascular pharmacology. (*Offered every third year; next offering 1986-87.*)
367. *Advanced Neuropharmacology*. I. 1-4 hr. PR: Pcol. 361 or consent. Advanced lectures on the actions of drugs on the central and peripheral nervous system.
461. *Seminar in Pharmacology*. I, II. 1 hr. per sem. PR: Pcol. 361 or graduate status in basic medical sciences.
462. *Literature Survey*. I, II. 1 hr. per sem. PR: Graduate status in pharmacology and toxicology. Current literature pertinent to pharmacology and toxicology including journals of allied biological sciences.
490. *Teaching Practicum*. I, II. 1-2 hr. per sem. PR: Pcol. 361 and consent. Critical evaluation of preparation and delivery of lectures in specified areas of pharmacology and toxicology. (For advanced graduate students.)
497. *Research*. I, II. S. 1-15 hr. per sem.

Physiology

The objective of the Department of Physiology graduate program is to educate physiologists in the methods of conducting independent research of high quality and of effective teaching. The department's graduates are conversant with all aspects of physiology and are prepared to interact creatively with scientists in related fields. To this end the program leading to the degree of Doctor of Philosophy (Ph.D.) emphasizes close interaction of faculty with students and a high faculty/student ratio. The Master of Science (M.S.) program includes 24 hours of course work and a research project leading to the thesis.

Admission Requirements

Individuals from a wide variety of backgrounds study physiology as one of the basic medical sciences. It is, in fact, not uncommon to find physiologists with such diverse backgrounds as biology, chemistry, physics, psychology, engineering, and mathematics. The department encourages the participation of qualified individuals from many undergraduate and graduate disciplines. There are, however, certain prerequisite courses a student must take either before enrollment or during the first year of the program. These prerequisites, designed to give a student the proper foundation for advanced study in physiology, are: Biology (2 semesters), Physics (2 semesters, calculus-based desirable), Calculus (2 semesters, 3 desirable), and Organic Chemistry (1 semester). Physical Chemistry is not required, but is desirable.

The department requires the following materials for consideration for the M.S. or Ph.D. program: Three letters of recommendation, transcripts of all undergraduate and graduate grades, a completed departmental application form, and Graduate Record Examination scores (aptitude and one advanced test). A bachelor's degree or equivalent is required for admission; an M.S. degree is not a prerequisite for the Ph.D. program.

A complete application kit and detailed descriptions of the degree programs may be obtained by writing to the Graduate Adviser, Department of Physiology, West Virginia University School of Medicine, Morgantown, WV 26506. Although applications may be submitted as late as June of the year of matriculation, applications must be received before February 1 to be considered for financial aid.

Master of Science

Prerequisites for admission to the master's program are the same as those for the doctoral program. The first academic year and first summer are likewise identical for the master's and doctoral students. During the second year of the master's program, the student enrolls for 6 hours of Advanced Physiology, Graduate Colloquium, and sufficient electives to fulfill the required 24 hours of course work. In addition, 6 hours of research are directed toward completion of the thesis. The M.S. program is usually completed in two years.

Doctor of Philosophy

The first year in the program normally includes the following courses: Graduate Physiology (12 hours), Biochemistry (7 hours), Statistics (3 hours), Neurophysiology (3 hours) or Neurobiology (6 hours), Graduate Colloquium (2 hours), Physiological Methods (variable credit), electives, and prerequisites (a limited number of which may be made up during the first year). The first-year curriculum familiarizes the student with some of the same basic sciences material presented to the medical students. Biochemistry and neurophysiology/neurobiology are part of the medical curriculum, and Graduate Physiology consists of Medical Physiology and 1 additional hour for graduate students only. The courses are team-taught by scientists specializing in each of the areas covered. In addition, the student is introduced to the full range of activities in the department through the Graduate Colloquium. Physiological Methods provides a foundation in the research strategies, techniques, and tools used by physiologists.

During the first summer, students may begin research projects in departmental research laboratories of their choice. They also may take elective courses or make up prerequisites.

During the second year, the student combines course work with the continuing development of research interests. A graduate adviser is selected during this year. Courses normally include: Advanced Physiology (12 hours), Graduate Colloquium (2 hours), Seminar (2 hours), and Teaching Practicum (assisting in laboratory/demonstrations, conducting small-group conference sessions, giving lectures). Commonly chosen electives include pharmacology and toxicology, and advanced or specialized topics in biochemistry and biophysics. The second-year curriculum takes the student beyond the medical curriculum, emphasizing critical appraisal of the current research literature. Students begin to present discussions of research topics in the Graduate Colloquium and Seminar.

After completion of the second academic year, the student takes a qualifying examination consisting of a written comprehensive part and both a written and oral research design part. Upon successful completion of the qualifying examination, the student is admitted to candidacy for the degree of Doctor of Philosophy in Physiology.

During the third and fourth years, the student may enroll in elective courses. Yearly participation in the Teaching Practicum provides experience

in delivering lectures to undergraduate and professional students. However, the student's major effort is directed toward dissertation research, with presentations about the research in the Graduate Colloquium. During these years the students will attend and present papers at national meetings of scientific societies (American Physiological Society, Biophysical Society, Endocrine Society, Federation of American Societies for Experimental Biology, Society for Neurosciences.) The Ph.D. program is generally completed in four years.

Research and Instruction

Research Areas—Faculty laboratories offer opportunities for research in cardiovascular, cell, endocrine, gastrointestinal, muscle, neural, renal, and respiratory physiology.

Physiology (Physi.)

141. *Elementary Physiology*. (For undergraduate students in paramedical sciences.) II. 4 hr. PR: College biology and chemistry, or consent. Systematic presentation of basic concepts. 3 lec., 1 lab.
241. *Mechanisms of Body Function*. I. 4 hr. PR: College chemistry, biology, physics, and algebra or graduate status and approval. A systematic examination of the homeostatic functions of the human body with emphasis on the physicochemical mechanisms involved. Pathophysiology and clinical correlations are introduced in relation to normal physiology.
248. *Experimental Design*. (For advanced undergraduate and selected graduate students.) II. 3 hr. PR: Consent. Theory and practical experience in design of experiments and processing of physiological data using small laboratory digital computers. 1 lec., 2 lab.
341. *Physiological Methods* 1. II. 1-5 hr. PR: Consent. Research techniques and strategies for physiology. (*Designed to be taken in conjunction with Physi. 345.*)
342. *Physiological Methods* 2. I. 1-4 hr. PR: Consent. Research techniques and strategies for physiology. (*Designed to be taken in conjunction with Physi. 344.*)
343. *Fundamentals of Physiology*. (For dental students and a limited number of regular full-time graduate students in medical center basic sciences departments.) I. 5 hr. PR: College physics, algebra, chemistry, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems and their control. 3 lec., 1 conf., 1 lab.
344. *Medical Physiology* 1. (For medical and a limited number of regular full-time graduate students in medical center basic sciences departments.) I. 5 hr. PR: College physics, algebra, chemistry, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems, and their control, with clinical correlations. 5 lec., 1 conf.-lab.
345. *Medical Physiology* 2. (For medical and a limited number of regular full-time graduate students in medical center basic sciences departments.) II. 5 hr. PR: Physi. 344 and consent of department chairperson. Continuation of Physi. 344. 5 lec., 1 conf.-lab.
346. *Neurophysiology*. (For graduate students in medical center basic sciences departments and a limited number of regular full-time graduate students.) II. 1-4 hr. PR: Math. 3 or 141, Phys. 1 and 2 or consent of department chairperson. Properties of excitable tissues (nerve and muscle), synaptic transmission, reflexes and central nervous system function, and behavior. 1-3 lec., 1 conf.
350. *Graduate Physiology* 1. (For graduate students in the medical center basic sciences departments and a limited number of other regular full-time graduate students.) I. 6 hr. PR: Calculus, college physics, organic chemistry, biology, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems, and their control.

351. *Graduate Physiology 2*. (For graduate students in the medical center basic sciences departments and a limited number of other regular full-time graduate students.) II. 6 hr. PR: Physi. 344 or 350 and consent of department chairperson. Continuation of Physi. 350.
399. *Special Topics*. I, II, S. 1-4 hr. PR: Consent. Assigned study designed to develop research skills.
444. *Graduate Seminar*. I, II. 2 hr. PR: Graduate standing and consent. (*Graded as S or U.*)
490. *Teaching Practicum*. I, II. 1-3 hr. PR: Consent. Supervised practices in college teaching of physiology. (*Graded as S or U.*)
491. *Advanced Physiology*. I, II, S. 1-15 hr. PR: Consent. Lecture-conference in: cellular physiology, neurophysiology, circulation, respiration, acid-base and renal physiology, digestion and energy metabolism, and endocrinology. 3 lec., 3 conf.
497. *Research in Physiology*. I, II, S. 1-15 hr.
498. *Thesis*. I, II, S. 2-4 hr. PR: Consent. (*Graded as S or U.*)
499. *Graduate Colloquium*. I, II. 1 hr. PR: Consent. (*Graded as S or U.*)

School of Dentistry

The School of Dentistry was established by an act of the West Virginia Legislature on March 9, 1951, and the first class began studies in September, 1957. The 23 members of that class were graduated in 1961, receiving the first dental degrees awarded in West Virginia. More than 200 students are now enrolled in the accredited dental program. In September, 1961, the first students were enrolled in the school's degree program in dental hygiene and were graduated in 1965.

The profession of dentistry offers many career opportunities. In addition to the general practice of dentistry, specialty practice areas may be pursued by further study. The fields of dental education and research provide the opportunity for satisfying and interesting careers. Dental auxiliary careers such as dental hygiene may be pursued. Men and women entering the dental health care delivery system find that they play an important role in the exciting and challenging world of the modern health sciences.

The School of Dentistry of West Virginia University offers programs of education leading to the degrees of Doctor of Dental Surgery, Master of Science with majors in Endodontics and Orthodontics, and Bachelor of Science in Dental Hygiene. One oral surgery internship and three oral surgery residencies are offered by the Department of Oral Surgery. Programs leading to the Master of Science and Doctor of Philosophy degrees are available in the associated basic sciences. Seven general practice residencies are offered by the School of Dentistry, University Hospital, and the Charleston Area Medical Center. Continuing education courses for dentists and auxiliaries are offered throughout the year on a wide variety of dental topics.

Administration of the School of Dentistry is the responsibility of the Dean. He is aided in this function by four associate deans and the clinical and medical center basic sciences chairpersons. This administrative group, the Faculty Council, serves in an advisory capacity to the Dean in carrying out the established policies of the School of Dentistry and of the University.

Doctor of Dental Surgery Program (D.D.S.)

The School of Dentistry offers a program of education leading to the degree of Doctor of Dental Surgery (D.D.S.). The requirements for admission and the curriculum conform to the standards established by the American Dental Association Commission on Dental Accreditation.

Admission

Application for admission in the Fall of 1986 should be made promptly upon completion of the 1984-85 school year, even if the applicant has not completed all the requirements as listed.

The School of Dentistry participates in the American Association of Dental Schools Application Service (AADSAS). All applications are processed by that organization. Application request cards are available at the Office of Admissions and Records, 1170 Basic Sciences Building, WVU Medical Center, Morgantown, WV 26506. Request cards should be submitted to AADSAS as promptly as possible. The deadline for submission of a completed AADSAS application to the AADSAS office, for admission to the West Virginia University School of Dentistry in the Fall of 1986, is November 1, 1985. This deadline is deliberately and explicitly discussed in the AADSAS instruction booklet and thus should be reviewed carefully by the applicant.

Since deadline dates are so important, you are strongly urged to give this part of the application procedure your strict attention.

Because of the large number of applicants and limited openings available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Nonresident applicants should have a grade-point average of 3.0 or above and an average score on the Academic and PMAT sections of the Dental Admission Test of at least 4-4. Economically or culturally disadvantaged students (especially if they are West Virginia residents) are encouraged to apply.

Each applicant is required to satisfactorily complete the Dental Admission Test. It is suggested that the test be taken in April, before making application in June, for admission in the fall. This test is given at testing centers throughout the United States and its possessions, and in Canada. Application cards may be secured by writing to: Division of Testing, Council on Dental Education, 211 E. Chicago Ave., Chicago, IL 60611.

Applicants for admission must present evidence of having successfully completed three or more academic years of work in liberal arts in an accredited college. The prerequisite courses should include:

	<i>Sem. Hr.</i>
English Composition and Rhetoric, or equivalent	6
Zoology or Biology (with laboratory)	8
Inorganic Chemistry (with laboratory)	8
Organic Chemistry (with laboratory)	8
Physics (with laboratory)	8

Courses in comparative anatomy, embryology, and biochemistry are strongly recommended. In addition, courses in the humanities and the social sciences are suggested in order to acquire a broadened intellectual background for both the study and practice of dentistry.

All applications are reviewed and those most qualified are invited to appear for a personal interview. The Committee on Admissions will advise the applicants of the time and place of the interview.

Admission to the WVU School of Dentistry is contingent upon satisfactory completion of all admission requirements as stated above, appropriate completion of all application instructions, submission of all transcripts from each college attended, personal interview, and satisfactory completion of all courses taken before the time of registration in dental school (includes courses taken during the summer session immediately preceding admission enrollment).

Final acceptance of a student is contingent upon satisfactory completion of all requirements.

Promotion

At the end of each grading period (i.e., each academic semester or session) all students will have their individual progress reviewed by the academic standards committee convened for their class. The progress of each student in the curriculum is governed by a set of minimum acceptable performance standards upon which the academic standards committee bases its decisions.

The standards consist of three categories: (1) scholastic performance; (2) clinic utilization; and (3) professional development. Scholastic performance requires that each student must earn a specified grade-point average to be promoted to the succeeding year. Clinic utilization requires that each student must utilize a specified competency. Professional development is an

important component of the study of dentistry. The criteria for determining this development are based on the student's personal behavior and patient management.

These performance standards are explained in detail in the "Curriculum and Academic Standards Statement for the WVU School of Dentistry." All first-year students are presented this statement prior to entering school and are required to acknowledge by their signature that they have read and accepted the conditions set by the material contained therein.

At the completion of each academic term, following the Committee on Academic Standards meetings, the status of each student is reported to the Dean and Faculty Council. The committee may recommend that a student be promoted unconditionally, be promoted on probation, be allowed to make up deficiencies, be given the opportunity to repeat the year, be suspended or dismissed from further studies in the School of Dentistry. Final disposition in each case is the prerogative of the appropriate Committee on Academic Standards and the Dean.

Requirements for the Degree (D.D.S.)

Candidates for graduation are recommended by the faculty of the School of Dentistry to the Board of Regents for its approval and for the conferring of the degree of Doctor of Dental Surgery (D.D.S.), provided they fully meet the following conditions:

1. Shall have been in regular attendance in the School of Dentistry for the academic period prescribed for each student.
2. Shall have completed the prescribed curriculum for each of the academic sessions.
3. Shall have shown good moral character and shall have demonstrated a sense of professional responsibility in the performance of all assignments as a student.
4. Shall have met in full all financial obligations to the University.

In view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of the University the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

Attendance at the spring Commencement is voluntary. If you don't plan to attend, leave the complete mailing address to where you want your diploma mailed at the Dean's Office.

Curriculum

The School of Dentistry recognizes its obligation to produce professionals capable of meeting the dental health needs of society and providing leadership for the dental profession. Therefore, the school offers a four-year program leading to the degree of Doctor of Dental Surgery (D.D.S.) that provides students with a learning environment in which to develop the technical competence, intellectual capacity, and professional responsibility necessary to meet the dental health needs of a society in a state of constant transformation. In order to insure the achievement of these goals, the dental curriculum is continually reviewed and revised.

The basic required courses in the curriculum are presented throughout the first six semesters and two eight-week summer sessions. During this time

SCHOOL OF DENTISTRY CURRICULUM PLAN

First Year (1,200 hr.)	Summer Session (320 hr.)	Second Year (1,200 hr.)	Summer Session (320 hr.)	Third Year (1,200 hr.)	Summer Session (320 hr.)	Fourth Year (1,200 hr.)
Basic Biologic Science	Basic Dental Science	Basic Biologic Science	Basic Dental Science	Basic Biologic Science	Bio-Clin. Sci. Comm. Dent.	Selected Didactics Electives and Clinical Dentistry
			Bio-Clinical Sciences	Bio- Clinical Sciences	Clinical Dentistry	
			Comm.Dent.			
	Clinical Dentistry					
	Bio-Clinical Sciences	Basic Dental Science	Unsched.		Unscheduled Time	
	Clinical Dentistry					
	Unsched.					
Basic Dental Science			Bio- Clinical Sciences		Clinical Dentistry	
		Comm. Dent.	Clinical Dentistry			
Bio-Clinical Sciences	Unscheduled Time					
Comm. Dent.						
Clinical Dentistry						
Unscheduled Time						

all students are enrolled in courses designed primarily to prepare them for the general practice of dentistry. Throughout the program overall student progress is continually monitored by the Committee on Academic Standards. Upon satisfactory completion of the first semester of the third year, the student is provided the opportunity to indicate a specific interest in a fourth-year curriculum track. Available tracks are the general practice track, basic biologic science track, and specific clinical interest track. Upon satisfactory completion of the second semester of the third year, the faculty adviser and the student prepare a specific individualized curriculum for the fourth year. This aspect of the dental curriculum provides the opportunity for the student to pursue areas of special interest through the appropriate track, while continuing to develop competency in all clinical disciplines. Fourth-year students are required to register for at least 3 hours of electives during each semester enrolled, and must register for those clinical courses requiring added clinical experience to attain competency.

At the present time, a number of state boards of dentistry require evidence of participation in continuing education for license renewal. In addition, a significant number of state associations require similar evidence for continued membership in good standing. Consequently, fourth-year electives provide the opportunity for students to pursue areas of special interest and, at the same time, they serve as a means of encouraging students to continue their education throughout their professional careers.

The individualized curriculum developed by the student and faculty adviser must be approved by the Curriculum Committee Chairperson and the Associate Dean for Academic Affairs. The student will pursue the approved curriculum through completion of the D.D.S. program.

Additional requirements include participation in mock board examinations by fourth-year students and six weeks of remote-site training by all students. Furthermore, students must satisfactorily complete all courses that are attempted.

Outstanding students, having accumulated grade-point averages of 3.0 or above, having developed competency in all clinical disciplines, and having met all other requirements, are eligible for consideration for graduation at the end of term I of the fourth year.

Dental Clinic

Clinical training and experience constitute a major part of the curriculum for dental and dental hygiene students. Facilities for dental and dental hygiene students include 160 treatment cubicles and all necessary related laboratories. Patients are accepted for treatment if their dental problems are of teaching value and if a student is available for assignment. The student assigned to each patient must work under close supervision of a faculty member. The clinic program provides practical experience for the student and renders a much needed service to several thousand patients annually.

Books and Instruments

Dental students are required to obtain necessary textbooks for the scheduled courses and special instruments for use in the various laboratories and clinics. Lists of approved instruments and books will be provided at the time of registration, and these supplies will be made available through University services. Official authorization is essential in the purchase of all instruments and books used in dental courses. All dental students must maintain a library of required textbooks through graduation. Used books, instruments, and equipment are not acceptable.

Organizations

American Student Dental Association. Predoctoral and advanced education dental students are eligible to become members of the American Student Dental Association. Membership provides for student membership in the American Dental Association.

American Association of Dental Schools. All dental and auxiliary students, including advanced education students, are eligible to become student members of the American Association of Dental Schools during the period of enrollment in the School of Dentistry.

WVU School of Dentistry Alumni Association. In a series of meetings held during May, 1961, the first senior class of the School of Dentistry established the WVU School of Dentistry Alumni Association. The association promotes the educational program of the School of dentistry. Full membership is extended to all graduates of the school, and associate memberships are available to others interested in the aims of the association.

Omicron Kappa Upsilon. On February 6, 1961, the Alpha Beta Chapter of the Omicron Kappa Upsilon, national honorary dental society, was chartered at the School of Dentistry. Student membership is limited to 12 percent of each senior class. Candidates are selected from the academically superior 20 percent.

Dental Fraternities. Chapters of three national dental fraternities were organized and established in 1962. First formal initiation ceremonies were conducted on February 9, 1962, by Beta Theta Chapter of Xi Psi Phi and Chi Chi Chapter of Delta Sigma Delta, and on February 10, 1962, by Sigma Chapter of Psi Omega. Membership in each fraternity is limited by an established class quota. Individual eligibility is based upon an accumulated 2.0 average.

Courses of Instruction in Dentistry (Dent.)

Each course is designated by the name of the department teaching it, its number and title, the semester in which it is offered, and hours of credit. Generally, those courses given in the first year are numbered 300-324; second year, 325-349; third year, 350-374; and fourth year, 375-399. Elective opportunities are offered to students during the fourth year of study. (See courses 394 and 397.) Other University courses may be taken with the approval of the student's adviser and the Assistant Dean for Instruction.

Community Dentistry

Professor McCutcheon (*Chairperson*) and Thompson; Adjunct Associate Professor Murphy; Associate Professors Ingersoll, Jagannathan, Meckstroth, and Wilson; Assistant Professor Dice; Clinical Instructors Broughton, Frum, Kuhn, Shelton, and N. Taylor.

320. *Community Dentistry.* II. 1 hr. Fundamentals of statistical analysis and the scientific method necessary to the understanding of dental research.
326. *Community Dentistry.* II. 2 hr. A course covering the principles of human behavior and their application to understanding patient problems, patient management, and dentist-patient communication.
330. *Community Dentistry.* I. 1 hr. Lectures and field experience provide the student with the basic knowledge of the principles of dental public health practice. Emphasis on dental epidemiology and preventive dentistry at the community level.

332. *Community Dentistry*. II. 1 hr. A course providing lectures in the advanced theory and practice of preventive dentistry with emphasis on nutrition and microbiology.
352. *Community Dentistry*. Yr. 2 hr. Seminars, proseminars, and field experience in selected topics of professional communication, health education, and the sociology and psychology of community health.
354. *Community Dentistry*. II. 1 hr. PR: Departmental consent. Lectures covering the origin and development of dentistry.
394. *Community Dentistry*. I, II. 1-15 hr. Continued field experience in various aspects of community health.

Dental Anatomy and Occlusion

Associate Professors Foor and VandenBosche; Assistant Professors Lopez and Rodeffer.

310. *Dental Anatomy and Occlusion*. Yr. 6 hr. Anatomy of individual teeth, both permanent and primary, in regard to form and function and their static and dynamic occlusal relationships.
331. *Occlusion*. S. 2 hr. PR: Consent. Didactic and clinic/laboratory instruction in the basic techniques and procedures associated with the treatment of conditions related to faulty occlusion.
351. *Occlusion*. II. 1 hr. PR: Consent. Advanced study of the science of occlusion with particular attention to its impact on the clinical diagnosis and treatment of occlusal disorders.

Dental Materials

Professor Overberger; Associate Professors Hart, Roth, and VandenBosche.

312. *Dental Materials*. I. 3 hr. Composition, physical, chemical, mechanical, and manipulative properties, and technical uses of dental restorative materials as related to dentistry.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Dental Practice Management

Professors Puderbaugh (*Chairperson*) and Cady; Associate Professors Hickman and Walker; Assistant Professor Lopez.

325. *Practice Management*. I. 1 hr. A lecture course designed to prepare dental students in the concepts of four-handed dentistry.
371. *Practice Management*. I. 2 hr. PR: Dent. 325. A lecture series on the fundamentals of practice management, including the organization and development of the practice, personnel and financial management, and the introduction to TEAM dentistry.
372. *Practice Management*. II. 1 hr. (Ethics.) Lectures and discussion on the principles of ethics applied to dental practice.
373. *Practice Management*. II. 1 hr. (Jurisprudence.) Lectures on the fundamental legal rights, obligations, and responsibilities of the dentist.
375. *Practice Management*. Yr. and S. 1-3 hr. PR: Consent. Clinical practice using auxiliaries, including those trained in expanded functions.

Endodontics

Professors Alberico, Biddington, Griffin, and Skidmore (*Chairperson*); Associate Professors Balaban and Christian; Assistant Professor Stewart; Instructors D. Blanc and D. Taylor.

321. *Endodontics*. S. 2 hr. Preclinical lectures and laboratory exercises on basic technical and biological requisites in the treatment of diseases of the dental pulp and the periapical tissues.
362. *Endodontics*. I. 1 hr. Lectures on rationale, diagnosis, prevention, and nonsurgical and surgical treatment of diseases of the dental pulp and their sequelae.
380. *Endodontics*. Yr. and S. 1-4 hr. Clinical endodontic instruction in order to develop the skills and judgment necessary to treat diseases of the dental pulp and their sequelae.
390. *Clinical Endodontics*. I, II, S. 1-5 hr. (May be repeated for credit.) PR: Graduate of an accredited dental school and admission to the Advanced Education Program in Endodontics or consent. Clinical endodontic practice in the areas of: ordinary endodontic cases, complex endodontic cases, hemisection, root amputation, replantation, transplantation, endodontic implantation, vital pulp therapy, apexification, and bleaching.
391. *Endodontic Theory*. I, II, S. 2 hr. PR: Consent. Provides seminar discussions in the topics of: basic endodontic techniques, advanced endodontic techniques, endodontic literature review, case presentation, and advanced endodontic theory.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Hospital Dentistry

- Professor Welch (*Chairperson*); Associate Professors Bakos and Cogan; Assistant Professors Black, Haddox, Hancock, Jackfert, Mott, Salzer, Skaff, Syner, Weaver, and Wine; Instructors Coffman, Courtney, Fagan, Farris, Ivey, Klein, Lee, Payne, and Wilbourn.
333. *Physical Diagnosis*. II. 1 hr. Lectures and demonstrations procedures involved in performing a physical examination and in understanding the hospital medical chart from the standpoint of history, physical examination, laboratory, and x-ray examination data.
 347. *Management of Medical/Dental Emergencies*. II. 1 hr. Assessment and treatment of the medical risk patient as related to the practice of dentistry. CPR instruction included.
 349. *Hospital Dentistry*. S. 1 hr. Hospital protocol and hospital dentistry as related to various dental disciplines. Students will be assigned a one-week hospital rotation where they are involved in care of the hospitalized dental patient.
 374. *Principles of Medicine*. I. 2 hr. General diseases about which the dental student should have intelligent working knowledge. Students are assigned to specific hospitalized patients to review their findings with the class.
 395. *Hospital Dentistry Practicum*. I, II, S. 1-15 hr. Hospital experience (remote site) in the various aspects of care of the hospitalized dental patient. Provides continuation of experiences gained in Dent. 349.

Operative Dentistry

- Professor Sausen (*Chairperson*); Associate Professors Chapman, Foor, Frye, Gladwin, Hart, Jackson, and VandenBosche; Assistant Professors Kelly, Naylor, Rodeffer, and Utt; Instructor Bennett.
304. *Operative Dentistry*. II. 4 hr. Preclinical course in principles of cavity preparation, manipulation of plastic restorative materials, and related instrumentation. Characteristics and treatment of caries emphasized.
 322. *Operative Dentistry*. S. 2 hr. Preclinical course to include a variety of cavity forms and their restoration with compacted golds. Preparation is made for entering clinical activity. Certain fundamentals of pedodontics introduced.
 329. *Operative Dentistry*. I. 2 hr. Lectures relate to standard clinical procedures and to laboratory instruction in direct and indirect cast gold restorations.

348. *Operative Dentistry*. S. 1 hr. Cavity medications, biological reactions to restorative materials and techniques, bur technology, and clinical variations of cavity form and treatment. Treatment planning procedure is reviewed and examined.
358. *Operative Dentistry*. II. 1 hr. More complex and advanced techniques for clinical practice with emphasis on new developments throughout the scope of operative dentistry.
383. *Operative Dentistry*. Yr. and S. 2-8 hr. Instruction in the clinic setting includes comprehensive diagnosis and treatment planning, computer assisted records, plaque control, caries control, and single tooth restorations. Sufficient variety and depth of experience occurs to obtain competence for independent practice of operative dentistry.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Oral Diagnosis and Radiology

Professors Graham (Chairperson) and H. Thomas; Associate Professors Bowers, Pifer, and Fotos.

303. *Oral Diagnostic Techniques*. II. 2 hr. Lectures and laboratory exercises introduce and stress fundamental principles of oral diagnosis including patient health history and clinical examination methods. Intraoral radiography. General approach to treatment planning for comprehensive health care.
323. *Clinic Orientation*. S. 1 hr. Series of specially arranged lectures, demonstrations, and clinical exercises to orient student to clinical procedures in the clinical disciplines.
327. *Oral Radiology*. I. 1 hr. The physical and biological phenomena associated with x-radiation. Intraoral and extraoral techniques presented and instruction in interpretation of roentgenograms, with special emphasis relative to oral diagnosis.
337. *Oral Diagnosis*. II. 1 hr. Didactic instruction with further application of diagnosis procedures presented in Dent. 303, extended to include special examination procedures and technics applicable to evaluating clinical problems.
387. *Clinical Oral Diagnosis*. Yr. and S. 1-3 hr. PR: Consent. Clinical application of principles presented in Dent. 303 and 337, providing opportunities for observation and analysis of clinical problems.
396. *Clinical Oral Radiology*. Yr. and S. 1-3 hr. Clinical application of principles presented in Dent. 303 and 327 with additional instruction in techniques and interpretation of radiographs with special emphasis to role played in oral diagnosis.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Oral Pathology

Professor Bouquot (Chairperson) and Associate Professor Keyes.

328. *General Pathology*. (For dental and graduate students). I. 5 hr. PR: Consent. The broad spectrum of human diseases is studied at the clinical, histological, physiological, and biochemical levels.
338. *Oral Pathology*. (For dental students.) II. and S. 3 hr. PR: Consent; Path. 328. Application of knowledge gained in general pathology to study specific diseases affecting the oral cavity.
353. *Oral Pathology*. (For dental students.) I. 2 hr. PR: Consent; Dent. 338. Continuation of Dent. 338.

355. *Clinico-Pathologic Correlation Conference*. (For dental students.) II. 1 hr. PR: Consent; Dent. 338, 353. Interesting oral lesions are demonstrated clinically, radiographically, and histologically. Diagnosis is established and treatment discussed by faculty and students.
382. *Advanced Oral Histopathology*. (For dental and graduate students, residents, and interns.) I and II. 1 hr. PR: Consent; Dent. 338, 353. An elective seminar stressing the significant microscopic features and diagnosis of various oral lesions.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.
401. *Special Studies in Oral Pathology*. (For dental and graduate students, residents, and interns.) I, II, S. 1-3 hr. PR: Consent. Advanced study of local or systemic disease processes affecting oral structures through seminars, assignment of specific topics, or research activities.

Oral and Maxillofacial Surgery

Professor Emeritus Campbell; Professor Graves (*Chairperson*); Associate Professors Davidson and Fogarty; Assistant Professors Carson, Farrar, Gilbert, Haley, King, Lattanzi, Oliverio, and Wilson; Instructor Lindsay.

300. *Anesthesiology*. II and S. 1 hr. Lectures on local anesthesia, including types, modes of action, indications, and contraindications for use. Premedication, toxic effects, and technics of administration are discussed.
339. *Oral Surgery*. II. 1 hr. Didactic instruction in basic surgical principles as applied to the extraction of teeth and dentoalveolar surgery.
359. *Oral Surgery*. I and II. 2 hr. PR: Consent. Didactic instruction in patient evaluation, complicated exodontia, preprosthetic surgery, diagnosis, surgical and adjunctive treatment of disease, injuries, and defects of human jaws and associated structures.
364. *Pain and Anxiety Control*. I. 1 hr. PR: Consent. Instruction in the psychology, physiology, and clinical techniques of controlling pain and anxiety in the dental patient.
384. *Oral Surgery*. Yr. and S. 1-3 hr. PR: Consent. Clinical instruction in outpatient and inpatient oral surgery necessary to provide comprehensive care for the dental patient.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.
400. *Advanced Oral Surgery*. I, II, S. 1-12 hr. PR: Consent. Advanced study of therapeutics, hospital protocol, and surgical aspects of oral surgery involving lectures, seminars, demonstrations, and clinical applications.

Orthodontics

Associate Professors Bernard (*Chairperson*) and Bonello; Assistant Professors Dempsey, Martin, Valentine, and Wilfong.

345. *Principles of Orthodontics*. II. 1 hr. Facial growth and development, the development of dental occlusion, and etiology and classification of malocclusions.
346. *Orthodontic Technics*. S. 1 hr. Technical instruction in taking diagnostic records and constructing basic orthodontic appliances.
365. *Orthodontics*. II. 1 hr. Introduction to clinical orthodontics; lectures on case analysis, treatment planning, and clinical procedures involved in interceptive, preventive, and adjunctive treatment of malocclusions.
385. *Orthodontics*. Yr. and S. 1-3 hr. Clinical management of selected malocclusion problems.

SCHOOL OF DENTISTRY COURSE SCHEDULE

First Year—Didactic Courses	Credit Hours	1st Sem.	2nd Sem.	S.
300—Anesthesiology	1		x	x
303—Oral Diagnostic Techniques	2		x	
304—Operative Dentistry	4		x	
305—General Biochemistry	4		x	
306—Gross Anatomy of the Trunk and Extremities ...	4		x	
307—Gross Anatomy of Head & Neck & Neuroanatomy	5		x	
309—Microanatomy and Organology	4	x	x	
310—Dental Anatomy and Occlusion	6	x		
311—Periodontics	1			x
312—Dental Materials	3	x		
313—Removable Prosthodontics	3	x		
314—Fixed Prosthodontics	1			x
315—Periodontics	2		x	
316—Removable Prosthodontics	1			x
317—Removable Prosthodontics	1		x	x
318—Oral Histology and Embryology	2	x		
319—Pediatric Dentistry	1		x	
320—Community Dentistry	1	x		
321—Endodontics	2			x
322—Operative Dentistry	2			x
323—Clinic Orientation	1			x
Second Year—Didactic Courses				
302—Microbiology	5	x		
325—Practice Management	1	x		
326—Community Dentistry	2		x	
327—Oral Radiology	1	x		
328—General Pathology	5		x	
329—Operative Dentistry	2	x		
330—Community Dentistry	1	x		
331—Dental Anatomy and Occlusion	2			x
332—Community Dentistry	1		x	
333—Physical Diagnosis	1		x	
334—Removable Prosthodontics	3	x	x	
335—Pediatric Dentistry	2	x	x	
336—Fixed Prosthodontics	6	x	x	
337—Oral Diagnosis	1		x	
338—Oral Pathology	3		x	
339—Oral Surgery	1		x	
340—Periodontics	1	x		
341—Removable Prosthodontics	2			x
343—Fundamentals of Physiology	5	x		
345—Principles of Orthodontics	1		x	
346—Orthodontic Technics	1			x
347—Management of Medical/Dental Emergencies	1			x
348—Operative Dentistry	1			x
349—Hospital Dentistry	1			x
Second Year—Clinical Courses				
376—Removable Prosthodontics	2-6		x	x
377—Periodontics	1-4	x	x	x
380—Endodontics	1-4	x	x	x
383—Operative Dentistry	2-8	x	x	x
384—Oral Surgery	1-3	x	x	x
386—Pediatric Dentistry	1-5	x	x	x
387—Clinical Oral Diagnosis	1-3	x	x	x
389—Fixed Prosthodontics	1-6		x	x
396—Clinical Oral Radiology	1-3	x	x	x

397. *Special Topics. (Fourth Year.)* I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

SCHOOL OF DENTISTRY COURSE SCHEDULE (Continued)

	Credit Hours	1st Sem.	2nd Sem.	S.
Third Year—Didactic Courses				
347—Management of Medical/Dental Emergencies	1		x	
350—Removable Prosthodontics	2	x	x	
352—Community Dentistry	2	x	x	
353—Oral Pathology	2	x		
354—Community Dentistry	1		x	
355—Clinico-Pathologic Correlation Conference	1		x	
357—Fixed Prosthodontics	2	x	x	
358—Operative Dentistry	1		x	
359—Oral Surgery	2	x	x	
360—Pharmacology	4	x		
361—Pediatric Dentistry	1		x	
362—Endodontics	1	x		
363—Periodontics	2	x	x	
364—Pain/Anxiety Control	1	x		
365—Orthodontics	1	x	x	
371—Practice Management	2	x		
372—Practice Management	1		x	
373—Practice Management	1		x	
374—Principles of Medicine	2	x		
Third Year—Clinical Courses				
376—Removable Prosthodontics	2-6	x	x	x
377—Periodontics	1-4	x	x	x
380—Endodontics	1-4	x	x	x
383—Operative Dentistry	2-8	x	x	x
384—Oral Surgery	1-3	x	x	x
385—Orthodontics	1-3	x	x	x
386—Pediatric Dentistry	1-5	x	x	x
387—Clinical Oral Diagnosis	1-3	x	x	x
389—Fixed Prosthodontics	1-6	x	x	x
394—Community Dentistry	1-15	x	x	
395—Hospital Dentistry Practicum	1-15	x	x	x
396—Clinical Oral Radiology	1-3	x	x	x
Fourth Year—Clinical Courses				
375—Practice Management	1-3	x	x	
376—Removable Prosthodontics	2-6	x	x	
377—Periodontics	1-4	x	x	
380—Endodontics	1-4	x	x	
383—Operative Dentistry	2-8	x	x	
384—Oral Surgery	1-3	x	x	
385—Orthodontics	1-3	x	x	
386—Pediatric Dentistry	1-5	x	x	
387—Clinical Oral Diagnosis	1-3	x	x	
389—Fixed Prosthodontics	1-6	x	x	
394—Community Dentistry	1-15	x	x	
395—Hospital Dentistry Practicum	1-15	x	x	
396—Clinical Oral Radiology	1-3	x	x	
397—Special Topics*	1-15	x	x	

*The relationship of the number of elective and/or required hours during the fourth year may vary with each student depending upon the individual student's progress.

Pediatric Dentistry

Professor Nash (Chairperson); Associate Professor Fenton; Assistant Professors Gwynn, Hagan, and Wilkerson; Instructors Banks and Nicholson.

319. *Pediatric Dentistry*. II. 1 hr. PR: Consent. Normal growth and development presented from physical, intellectual, psychological, and oral perspectives. Behavior of children in dental environment reviewed and strategies for management examined.

335. *Pediatric Dentistry*. I and II. 2 hr. PR: Consent. Didactic instruction foundational to the dental care to children presented in the following modules of instruction: oral diagnosis/treatment planning/case presentation, prevention, restorative dentistry, pulpal therapy, management of the developing occlusion and trauma to the dentition and oral structures.
361. *Pediatric Dentistry*. II. 1 hr. PR: Consent. Continued didactic instruction in dentistry for the child patient with the following learning packages programmed: abnormal dental development, oral habits, dental care for handicapped children, and adolescent dentistry.
386. *Pediatric Dentistry*. I, II, S. 1-5 hr. PR: Consent. Instruction in the clinical setting with the goal of developing the psychomotor skills and judgment necessary to provide comprehensive care for the child patient.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Periodontics

Professor Morrison (*Chairperson*); Associate Professors Crout, Hart, and Hornbrook; Assistant Professors Reed, Rodeffee, Rosenfeld, Segal, Vargo, and Wanker.

311. *Periodontics*. S. 1 hr. Introduction to periodontal diseases, their diagnosis and treatment. Laboratory instruction is included.
315. *Periodontics*. II. 2 hr. Study of professional communication and introduction to the theory and practice of preventive dentistry.
340. *Periodontics*. I. 1 hr. Intermediate didactic instruction in periodontal therapy including basic surgery and post-operative care.
342. *Periodontics*. I. 1 hr. PR: Consent. Introduction to the practice of preventive dentistry.
363. *Periodontics*. Yr. 2 hr. Advanced didactic instruction in periodontal therapy including special surgical procedures.
377. *Periodontics*. Yr. and S. 1-4 hr. Clinical experience in the diagnosis and treatment of periodontal diseases.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Fixed Prosthodontics

Professor Emeritus Adams; Professors Bianco (*Chairperson*) and Tucker; Associate Professors Connor, Kwiatkowski, and Queen; Assistant Professors N. Smith and W. Taylor; Adjunct Professor Sherril.

314. *Fixed Prosthodontics*. S. 1 hr. Preclinical lectures and laboratory exercises in which first-year students are introduced to the technics of preparing and restoring teeth with crown restorations.
336. *Fixed Prosthodontics*. Yr. 6 hr. PR: Consent. Lectures and laboratory exercises involving principles and technics of crown and bridge prosthodontics. Topics include types of dental bridges, their indications, and contraindications.
357. *Fixed Prosthodontics*. Yr. 2 hr. PR: Consent. Lectures concerned with clinical practice; diagnosis, treatment planning, treatment procedures, ceramics, esthetics, and occlusion.
389. *Fixed Prosthodontics*. Yr. and S. 1-6 hr. PR: Consent. Clinical application of the theory and practice of crown and bridge dentistry.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Maxillofacial Prosthodontics

Professor Bianco (*Chairperson*); Associate Professor Kluth.

397. *Special Topics. (Fourth Year.)* I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Removable Prosthodontics

Professors Bianco (*Chairperson*) and DeCounter; Associate Professors Roth and Van Riper; Assistant Professors Beaumont, Camele, Harper, Sauter, and Stewart.

313. *Removable Prosthodontics. I.* 3 hr. Lectures and laboratory practice in biomechanical requirements of the edentulous patient.
316. *Removable Prosthodontics. S.* 1 hr. Lectures and laboratory practice in maxillomandibular relationships and occlusion.
317. *Removable Prosthodontics. II.* 1 hr. PR: Consent. A lecture course providing an introduction to removable partial denture prosthetics.
334. *Removable Prosthodontics. Yr.* 3 hr. Didactic and laboratory practice for treatment of the partially edentulous patients, and introduction to clinical complete denture prosthodontics.
341. *Removable Prosthodontics. S.* 2 hr. Clinical demonstrations correlating the didactic and laboratory practices with the actual treatment of a removable prosthodontic patient.
350. *Removable Prosthodontics. Yr.* 2 hr. Lectures concerned with clinical practice of complete and partial removable prostheses.
376. *Removable Prosthodontics. Yr. and S.* 2-6 hr. Continued application of the theory and practice of removable prosthodontics.
397. *Special Topics. (Fourth Year.)* I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Advanced Education Programs

The School of Dentistry offers advanced education programs. The Department of Endodontics and the Department of Orthodontics offer programs of advanced study leading to the degrees of Master of Science (M.S.). Programs leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees are available in the basic sciences of Anatomy, Microbiology, Biochemistry, Pharmacology and Toxicology, and Physiology. The Department of Oral Surgery offers one oral surgery internship and three residencies. Seven general practice residencies also are offered by the School of Dentistry. Continuing education courses are offered throughout the year. Detailed information concerning admission requirements, courses of study, etc., in these programs may be obtained from the Office of the Associate Dean for Postdoctoral Programs, WVU School of Dentistry, Morgantown, WV 26506.

Endodontic Program

Master of Science (M.S.)

The School of Dentistry and its Department of Endodontics offer a program of advanced study and clinical training leading to the degree of Master of Science (M.S.) The program requires a minimum of 24 months (two academic years and two summer sessions) of full-time residency in the School of Dentistry. It is designed to qualify dentists for careers in endodontic clinical practice, teaching, and research.

Inquiries concerning this program should be directed to the Office of the Associate Dean for Postdoctoral Programs. Applicants will be processed in the School of Dentistry. Applicants approved for admission to the program will be notified soon after January 15.

Requirements for Admission to the Endodontic Program

1. Graduation from an accredited school of dentistry.
2. Evidence of scholastic and clinical achievement that would indicate the applicant's ability to progress in a program of this nature.
3. Each applicant must file with the Department of Endodontics all information requested in the departmental application form.

Requirements for Degree of Master of Science

1. Fulfillment of general WVU graduate study requirements.
2. Twenty-four months (two academic years and two summer sessions) of consecutive residency at the WVU School of Dentistry.
3. An approved master's thesis based on original research completed during the period of residency in an area related to endodontics.
4. Must satisfactorily pass a final oral examination.
5. Must complete a minimum of 57 credit hours. These include 32 hours of endodontic courses, a minimum of 18 hours of selected basic sciences subjects, and a thesis (7 hours).
6. Must have demonstrated satisfactory clinical competency in the student's field.
7. Must have maintained a grade level commensurate with graduate education.

Dentistry (Dent.)

400. *Advanced Oral Surgery*. I, II, S. 1-12 hr. PR: Consent. Advanced study of therapeutics, hospital protocol, and surgical aspects of oral surgery involving lectures, seminars, demonstrations, and clinical applications.

Endodontics (Dent.)

390. *Clinical Endodontics*. I, II, S. 1-5 hr. PR: Graduate of an accredited dental school and admission to the Advanced Education Program in Endodontics or consent. (May be repeated for credit.) Clinical endodontic practice in the areas of: ordinary endodontic cases, complex endodontic cases, hemisection, root amputation, replantation, transplantation, endodontic implantation, vital pulp therapy, apexification, and bleaching.
391. *Endodontic Theory*. I, II, S. 2 hr. PR: Consent. Provides seminar discussions in the topics of: basic endodontic techniques, advanced endodontic techniques, endodontic literature review, case presentation, and advanced endodontic theory.
490. *Endodontic Teaching*. S. 2 hr. PR: Consent. Selected teaching experiences including lecture, clinical, and laboratory teaching of undergraduate endodontic courses.

497. *Endodontic Research*. I, II, S. 2-3 hr. PR: Consent. Students will prepare a research protocol, conduct experimental research, and prepare a thesis of original endodontic research.

Microbiology (M. Bio.)

317. *Special Problems in Microbiology*. I, II, S. 1-7 hr. per sem. with a total of 24 hr. available. Pathogenic microorganisms, including immunology and antimicrobial agents.

Pathology (Path.)

382. *Oral Histopathology*. (For graduate and dental students.) I, II. 1-2 hr. PR: Consent. Advanced study of the microscopic aspects of oral and paraoral disease through weekly seminars with emphasis placed on diagnosis.
401. *Special Studies in Oral Pathology*. I, II. 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.

Pharmacology and Toxicology (Pcol.)

360. *Pharmacology*. I. 4 hr. PR: Consent. Lecture and laboratory on pharmacologic actions and therapeutic uses of drugs.

Statistics (Stat.)

311. *Statistical Methods 1*. I, II. 3 hr. PR: Math. 3. Statistical models, distributions, probability, random variables, tests of hypotheses, confidence intervals, regression, correlation, transformations, F and Chi-square distributions, analysis of variance and multiple comparisons. (*Equiv. to Ed. P. 311 and Psych. 311.*)

Orthodontic Program

Master of Science (M.S.)

The School of Dentistry and its Department of Orthodontics offer a program of advanced study and clinical training leading to the degree of Master of Science (M.S.) The program requires a minimum of 24 months (two academic years and two summers) of full-time residency in the School of Dentistry. It is designed to qualify dentists for careers in orthodontic clinical practice, teaching, and research.

Inquiries concerning this program should be directed to the Office of the Associate Dean for Postdoctoral Programs. Those applicants approved for admission to the program will be notified soon after January 15.

Requirements for Admission to the Orthodontic Program

1. Graduation from an accredited dental school.
2. Evidence of scholastic and clinical achievement that would indicate the applicant's ability to progress in a program of this nature. Generally, a minimum grade-point average of 2.75 is required for admission.
3. Each applicant must file with the department all information requested in the department application form.

Requirements for Degree of Master of Science

1. Fulfillment of general WVU graduate study requirements.
2. Twenty-four months (two academic years and two summers) of consecutive residency at the School of Dentistry.
3. An approved master's thesis based on original research completed during the period of residency in an area related to orthodontics.
4. Must satisfactorily pass a final oral examination.

5. Must complete a minimum of 50 credit hours. These include 35 hours of orthodontic courses, a minimum of 9 hours of selected basic sciences subjects, a minimum of 6 hours of elective allied subjects, and a thesis (6 hours).

6. Must have demonstrated satisfactory clinical competence in the student's field.

7. Must have maintained a grade level commensurate with graduate education.

Anatomy (Anat.)

315. *Craniofacial Osteology and Myology*. I. 3 hr. PR: Dental, medical, or graduate student standing or consent. Study of craniofacial embryology, morphology, and physiology, with special emphasis on articulations and their clinical applications.
316. *Craniofacial Growth and Maturation*. II. 3 hr. PR: Anat. 315 or consent. The current concepts of craniofacial growth and maturation are presented and integrated for application to clinical problems.

Orthodontics (Dent.)

416. *Biomechanics*. I, II, S. 2 hr. PR: Consent. Design and function of the teeth and their surrounding structures, and response of these tissues to orthodontic procedures.
417. *Orthodontic Technique*. I, II, S. 2 hr. PR: Consent. Laboratory course in techniques related to fabrication and manipulation of orthodontic appliances.
418. *Orthodontic Materials*. I, II, S. 1 hr. PR: Consent. Physical properties of materials used in orthodontic appliances.
419. *Orthodontic Diagnosis*. I, II, S. 1-3 hr. PR: Consent. Seminar-type class on technique of patient examination, acquiring diagnostic records, and analyzing and correlating this information to the treatment of clinical problems.
420. *Cephalometrics*. S. 1-3 hr. PR: Consent. Use of radiographic cephalometry in studying growth of the human face, analysis of dentofacial malformations, and evaluation of orthodontic treatment.
421. *Orthodontic Mechanics*. I, II, S. 1-4 hr. PR: Dent. 416, 417. Seminar and laboratory course on basic orthodontic mechanical properties.
422. *Advanced Orthodontic Mechanics*. I, II, S. 1 hr. PR: Dent. 421. Continuation of Dent. 421 involving more difficult type cases and introducing more sophisticated appliance therapy.
423. *Growth and Development*. II. 1-5 hr. PR: Consent. Seminar-type course on normal and abnormal growth of the human head and its application to orthodontics.
425. *Orthodontic Seminar*. I, II, S. 1-8 hr. PR: Consent. Discussions involving all branches of dental science, with special emphasis on the orthodontic interest. Assigned topics and articles in the literature discussed.
426. *Orthodontic Clinic*. I, II, S. 1-12 hr. PR: Dent. 416, 417. Clinical treatment of selected patients.
497. *Research*. I, II, S. 1-15 hr.

Pathology (Path.)

401. *Advanced Oral Pathology*. I, II. 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.

Statistics (Stat.)

311. *Statistical Methods 1*. I, II. 3 hr. PR: Math. 3. Statistical models, distributions, probability, random variables, tests of hypotheses, confidence intervals, regression, correlation, transformations, F and Chi-square distributions, analysis of variance and multiple comparisons. (Equiv. to Ed. P. 311 and Psych. 311.)

Dental Hygiene Program

The Dental Hygiene Program is a department of the School of Dentistry. The four-year dental hygiene curriculum combines the advantages of both a liberal arts and a professional education. This curriculum format has departed from the conventional, but there is a definite conviction that the inclusion of many disciplines provides greater strength to the program. The educational objectives of the Dental Hygiene Program are:

To prepare individuals to perform to the level of competency specified by the faculty, the state boards of dental examiners, and employers of those oral health services legally approved for a dental hygienist in any state, district, or territory of the United States. Presently, these services include: observation, recording, prevention, treatment, education, and communication.

To prepare individuals capable of performing the clinical skills delegated to any dental auxiliary (excluding the dental laboratory technician).

To prepare dental hygienists to teach clinical skills and to present didactic information in dental auxiliary education programs.

To prepare individuals capable of performing coordinative and administrative functions in public health and community related areas.

To prepare individuals for the dental hygiene profession who have a keen sense of social awareness and professional responsibility.

To prepare dental hygienists to continue their professional development past graduation through formal training, self-study, and independent thought.

To prepare individuals who have the capability to understand and adapt to new developments and changes in the scientific, sociologic, and practical factors pertaining to health.

To provide the educational foundation for higher education.

Upon completion of all requirements and with the recommendation of the School of Dentistry, the candidate is awarded the degree of Bachelor of Science in Dental Hygiene (B.S.)

The Dental Hygiene curriculum is structured in accordance with the standards specified for a Dental Hygiene Program by the Commission on Accreditation of the American Dental Association. The program has been fully accredited by this organization since 1965.

Admission

Students enter dental hygiene as freshmen, and the general admission policies of West Virginia University are followed. The applicant must be a graduate of an accredited high school or preparatory school and have completed 1 unit of plane geometry, biology, and chemistry, 2 units of algebra, and 4 units of English. Good grades are expected, and applicants should rank in the upper one-third of their graduating class. Particular attention is given to academic achievement in science courses.

The American College Testing Program (ACT) examination is required of high school applicants. A high school counselor can supply information concerning this examination.

In addition to a special application form for dental hygiene, each candidate for admission is supplied with three standardized reference forms. Each applicant is requested to have one dental hygienist and two other individuals return the forms directly to the Department of Dental Hygiene.

The personal qualifications, scholastic record, test scores, and recommendation of each applicant are reviewed by the Dental Hygiene Admissions Committee. After reviewing these credentials, the committee will

request an interview with those applicants who are most qualified. The applicant will be notified by letter of the date, time, and place of the interview.

The competition for entrance into dental hygiene is extremely keen. *Nonresidents should recognize that preference is given to West Virginia residents. Only those nonresidents with the highest qualifications will be considered.*

For application materials the applicant should write to the Department of Dental Hygiene, West Virginia University, Morgantown, WV 26506; or the Office of Admissions and Records, WVU Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301. Applicants should apply and complete aptitude tests as early as possible in the year preceding the year admission is desired. Applications are available in September and are not accepted after March 1.

Promotion

At the end of each semester, the status of each dental hygiene student is reviewed by the Dental Hygiene Committee on Academic Standards. This committee then makes recommendations to the Dean. Final disposition in each case is the prerogative of the Dean and the Chairperson of Dental Hygiene.

Unconditional promotion normally depends upon fulfillment of all course requirements and the attainment of both a minimum cumulative grade-point average and a minimum science-dental hygiene grade-point average. These minimum grade-point averages are: a 1.50 for promotion to the second year; a 1.75 for promotion to the third year; a 2.0 for promotion to the fourth year; and a 2.0 for graduation.

The courses (or equivalents) utilized to calculate the science-dental hygiene grade-point average are: Anatomy 101; Biology 1; Chemistry 11, 12; Dentistry 300; Microbiology 26; Pathology 128, 129; Pharmacology and Toxicology 160; Physiology 141; and *all* courses in Dental Hygiene (Dnt. Hy. 1-220).

Students who do not qualify to be promoted unconditionally may be placed on probation or may be suspended from further studies in the Department of Dental Hygiene. Probationary status implies that the student will be allowed to make up deficiencies or be given an opportunity to repeat a year.

If a student is promoted on probation, the student must reach the required minimum standards specified above. Students on probation who do not obtain these standards will be reevaluated by the committee.

The Department of Dental Hygiene reserves the right to suspend or require remedial work of any student who does not perform at a level satisfactory for patient care.

Professional Organizations

The American Dental Hygienists' Association is the official organization representing the dental hygiene profession. Student dental hygienists have the opportunity of student membership in the association.

Sigma Phi Alpha is the national dental hygiene honorary society. Student membership is limited to 10 percent of each graduating class. Candidates are selected on the basis of scholarship, character, and potential as a dental hygienist.

DENTAL HYGIENE CURRICULUM PLAN

First Year				Second Year			
First Sem.	Hr.	Second Sem.	Hr.	First Sem.	Hr.	Second Sem.	Hr.
Engl. 1	3	Chem. 12	4	Anat. 101	4	Physi. 141	4
Core A		Dnt. Hy. 2	3	Dnt. Hy. 105	2	Dnt. Hy. 90	3
(Spch. 11 & 12)	3	Dnt. Hy. 85	3	Nutrn. 71	3	Pcol. 160	3
Biol. 1	4	Core A (Elective)	3	Ed.P. 105	3	Dnt. Hy. 120	1
Chem. 11	4	Core B		M. Bio. 26	4	Dnt. Hy. 125	4
Dnt. Hy. 1	2	(Soc.&A. 1)	3	Core B		Engl. 2	3
Dnt. Hy. 66	1			(Psych. 1)	3		
	17		16		19		18

Third Year				Fourth Year			
First Sem.	Hr.	Second Sem.	Hr.	First Sem.	Hr.	Second Sem.	Hr.
Dnt. Hy. 168	1	Dnt. Hy. 169	1	Dnt. Hy. 202	2	Dnt. Hy. 206	2-4
Core A (Elective)	3	Dnt. Hy. 174	2	Dnt. Hy. 205	6	Electives	
Path. 128	2	Core B	3	Core B		Maximum	15
Dnt. Hy. 152	2	(Psych. 141 or 164)		(Upper-Division		Minimum	12
Anes. 300	1	Core A (Elective)	3	Soc.&A.)	3		
Dnt. Hy. 172	2	Dnt. Hy. 150	2	Electives			
Dnt. Hy. 155*		Dnt. Hy. 155*		Maximum	7		
Dnt. Hy. 154*		Dnt. Hy. 154*		Minimum	4		
		Path. 129	3				
					15-18		14-18

*Year courses: Dnt. Hy. 155—6 credit hours: Dnt. Hy. 154—4 credit hours.

American Association of Dental Schools. This association of dental educational institutions and faculties has as its primary purpose to promote and improve dental education. Dental hygiene students may join as student members.

West Virginia University School of Dentistry Alumni Association. Graduates of the Department of Dental Hygiene may join and participate in all activities of the Alumni Association.

Courses of Instruction in Dental Hygiene

Professor Komives (*Chairwoman*); Associate Professors DeBiase, Graves, Krouse, and Sherrill; Assistant Professors Faris and Scaramucci; Instructors Arceneaux and DeMarco; Adjunct Professor Ramsey; School of Dentistry faculty.

(Courses included in the Dental Hygiene curriculum, but not listed here, will be found either under other department listings in this *Catalog* or the *WVU Undergraduate Catalog*.)

Dental Hygiene (Dnt. Hy.)

1. *Orientation to Dental Hygiene.* I. 2 hr. PR: Enrollment in dental hygiene. Historical development of dental hygiene with emphasis on the philosophy, responsibilities, and current role of the dental hygienist as a member of the dental health team.
2. *Introduction to the Dental Specialties.* II. 3 hr. PR: Dnt. Hy. 1 or consent. Survey of functions and responsibilities of each of the dental specialties. Emphasis on the role of the dental assistant and dental hygienist in each type of practice.
66. *Technical Expression and Dental Literature.* I. 1 hr. PR: Enrollment in dental hygiene. Preparation and uses of professional communication.

85. *Oral Anatomy*. II. 3 hr. PR: Enrollment in dental hygiene. Human teeth and the anatomy of the head and neck with emphasis on structures in or related to the oral cavity.
90. *Oral Histology*. II. 3 hr. PR: Enrollment in dental hygiene. Histological structures of the teeth and tissues of the oral cavity and the morphological development of these structures.
105. *The Theory and Practice of Prevention*. I. 2 hr. PR: Enrollment in dental hygiene. Philosophy and techniques of preventive dentistry.
120. *Dental Nursing Technics*. II. 1 hr. PR: Enrollment in dental hygiene. Emergency first aid and principles of nursing applicable to the dental office.
125. *Dental Hygiene Technics*. II. 4 hr. PR: Enrollment in dental hygiene. Fundamental principles and technics of dental hygiene are presented through lectures, laboratory, and clinical participation.
150. *Dental Health Education*. II. 2 hr. PR: Enrollment in dental hygiene. Lectures, demonstrations, and field experiences on the methods, materials, and resources used in teaching dental health to various population groups.
152. *Dental Radiology*. I. 2 hr. PR: Enrollment in dental hygiene. Basic principles and procedures in oral radiology technics and interpretation.
154. *Clinical Dental Hygiene*. I, II. 4 hr. PR: Dnt. Hy. 125. Lectures and clinical application of dental hygiene principles and technics.
155. *Expanded Functions*. I, II. 6 hr. PR: Enrollment in dental hygiene. Lecture, laboratory, and clinical course covering the materials and technics of restorative dentistry and expanded duties for the dental hygienist.
168. *Periodontics*. I. 1 hr. PR: Enrollment in dental hygiene. Tissues of the periodontium, histopathology of periodontal disease with emphasis on etiology, examinations, diagnosis, treatment, and prevention within the scope of dental hygiene.
169. *Periodontics*. II. 1 hr. PR: Dnt. Hy. 168. A sequential course to Dnt. Hy. 168. Includes recognition and treatment of periodontal disease with emphasis on occlusion, surgical procedures, and post-operative care of patients.
172. *Public Health*. I. 2 hr. PR: Enrollment in dental hygiene. Theory and practice of preventive dentistry and community health.
174. *Dental Hygiene Teaching Methods*. II. 2 hr. PR: Enrollment in dental hygiene. Concepts and principles of administration, curriculum, and clinical teaching unique to dental auxiliary education. Emphasis on overall role of the dental hygiene educator.
202. *Dental Hygiene Practice*. I. 2 hr. PR: Senior enrollment in dental hygiene. Scope of practice for the dental hygienist including ethical and legal considerations. Public and professional relations as well as practice management are discussed.
205. *Advanced Clinical Dental Hygiene*. I. 5-6 hr. PR: Senior enrollment in dental hygiene. Role of the dental hygienist in an orthodontic practice, pre- and post-operative care of surgical patients, and introduction to research. Students gain clinical experience in both traditional and expanded duties of the dental hygienist.
206. *Advanced Clinical Dental Hygiene*. II. 2-4 hr. PR: Senior enrollment in dental hygiene. Continuation of clinical practice experience in dental hygiene procedures.
220. *Special Topics in Dental Hygiene*. I, II. 1-22 hr. PR: Senior enrollment in dental hygiene. Special topics relevant to dental hygiene. A variety of sections offer elective opportunities to dental hygiene majors.

School of Medicine

The School of Medicine began as the College of Medicine in 1902. For ten years this program was affiliated with the College of Physicians and Surgeons of Baltimore, Md. In 1912 the School of Medicine had its formal beginning as an independent school offering the first two years of the medical curriculum. The School of Medicine moved from the Downtown Campus to the Medical Center in 1957 and inaugurated a four-year program in 1960. This coincided with the opening of University Hospital. In 1961, the first M.D. degrees were awarded to 15 students.

In 1945 the School of Medicine established a curriculum in Medical Technology leading to a degree of bachelor of science. The first graduates were awarded a combined degree by the College of Arts and Sciences and the School of Medicine in 1947. The Program of Medical Technology was established in the School of Medicine in 1961. The division of Physical Therapy was established and accepted its first class of 16 students in 1970. The division offers the final two years of a baccalaureate program leading to a degree in physical therapy.

West Virginia University Medical Center—Charleston Division was established in October, 1972, with the affiliation of WVU and the Charleston Area Medical Center. The Charleston Division offers programs for third and fourth-year medical students in a variety of required and elective courses.

West Virginia University School of Medicine—Wheeling Division was established in 1974. This program is available for many elective opportunities for students in the fourth year.

Committees (Chairpersons)

Academic Standards: Gunter N. Franz.

Biomedical Research Support: Duane E. Haines.

Dean's Committee to Clarksburg VA Hospital: Richard A. DeVaul.

Curriculum Committee: John F. Foss.

Executive Faculty: Richard A. DeVaul.

Educational Advisory: Richard A. DeVaul.

Faculty Promotion: Michael G. Mawhinney.

Medical School-Hospital Liaison to Student Body: Richard A. DeVaul.

Student Admissions: John W. Traubert.

E. J. Van Liere Student Research Convocation: Wilbert E. Gladfelter.

Outstanding Teachers: Howard D. Colby.

Continuing Medical Education: David Z. Morgan.

Intern Advisory: John F. Foss.

Admissions Committee for Medical Technology: Anne W. Sharpe.

Admissions Committee for Physical Therapy: Carolyn E. Barnes.

Degree

The degree of Doctor of Medicine (M.D.) is granted to students who have completed the prescribed curriculum and who have been recommended for the degree by the faculty of the School of Medicine.

Combined M.D.-Ph.D. Program

This should be considered only by students who have shown exceptional interest and promise. All of the admission requirements of the School of

Medicine and the specific graduate program will apply. Specific course requirements and procedures for monitoring progress will be detailed by both programs.

Admissions

Because of the large number of applicants and limited openings available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants who have ties to the state of West Virginia will also be considered. Careful consideration is given to those personal qualifications which bear upon fitness of the applicants for the study and practice of the profession.

When to Apply for Admission

Application for admission in August, 1985, should be made beginning June 1, upon completion of the 1983-84 school year. The latest date for filing an application is November 30, 1984. It is desirable for applicants to file early and to make certain that New Medical College Admission Test scores, current transcripts, and letters of recommendation are available to the Committee on Admissions.

College Credit Required

The applicant should present a broad general education including a major in some field, not necessarily a natural science. The Admissions Committee needs evidence of excellence of academic performance and steady progress toward a goal.

An excess of credit hours or higher degrees does little to offset the disadvantages of low grades in securing admission to the School of Medicine. The practice of repeating courses to raise the grade is discouraged. Applicants who have been subject to suspension from the West Virginia University or other medical schools can be admitted only in very exceptional cases and at the discretion of the Committee on Admissions.

The following courses are required for consideration of an application to Medical School.

English	1 year
Biological Sciences (with laboratory)	1 year
Inorganic Chemistry (with laboratory)	1 year
Organic Chemistry (with laboratory)	1 year
Physics (with laboratory)	1 year
Social or Behavioral Sciences	1 year

A strong quantitative background is recommended, including calculus.

A total of 90 semester hours of work, exclusive of Military Science (ROTC) and General Physical Education, is required.

It is recognized that applicants for medical school may have very diverse undergraduate backgrounds with a variety of majors. While many undergraduate courses, aside from the required prerequisites, might be beneficial in providing additional background for medical school, the choice of such courses should be determined by the academic strengths and weaknesses of the particular applicant.

New Medical College Admission Test

The scores of the New Medical College Admission Test (New MCAT) are used by the Admissions Committee in considering an applicant for admission. For this reason, it is strongly recommended that students take the test in the Spring before making application for admission. Delaying the test until Fall, even though all science courses may not have been completed, jeopardizes an applicant's opportunity since no final consideration is given until New MCAT scores are obtained by the Admissions Committee. No applicant can be considered who delays taking the New MCAT until Spring of the year of expected entry. Information concerning the time and place of the test can be obtained from your premedical adviser or committee. The New Medical College Admission Test is required of all applicants and it must have been taken within the past two years before applying.

Personal Interview

No applicant is admitted without an interview by the Committee on Admissions. Currently, all residents of West Virginia are granted an interview. Qualified nonresident applicants are interviewed at the discretion of the Committee on Admissions. The applicant is notified of the time and place of the interview. Interviews and consideration of applicants begin in September.

Conditions Following Acceptance

The accepted applicant is expected to meet all entrance requirements and satisfactorily complete all undergraduate work in progress. A satisfactory performance in the completion of such work is defined as one which is consistent with the student's previous academic record. Failure to do so may result in the withdrawal of the acceptance by the Committee on Admissions.

It should also be apparent that furnishing or causing to be furnished false information for the purpose of the School of Medicine application constitutes grounds for disciplinary action, including but not limited to expulsion or revocation of the acceptance.

Admission to Advanced Standing

Increasing numbers of inquiries are being received seeking consideration of enrollment in the WVU School of Medicine with advanced standing. Only a limited number of such requests can be processed. Transfer ordinarily will be considered only at the end of the second year. The applicant must have presented results of the Medical Science Knowledge Profile (MSKP) Test and must present certification of good standing in the school from which the student is transferring.

Examinations and Evaluation of Student Progress

It is the policy of the School of Medicine that the several departments conduct examinations of various types from time to time to help in the overall evaluation of student progress. A Satisfactory (S) or Unsatisfactory (U) designation is formally recorded for each course. In addition, each department files in the Office of the Dean a narrative evaluation of the work of each student identifying strengths and weaknesses and suggesting remedial or corrective measures, if appropriate.

In addition to departmental examinations, which help serve as a basis for recording grades in individual courses, other examinations may be conducted at times for other purposes. At the end of the first year a comprehensive examination, designed on an interdepartmental basis, may be required as a test of readiness for promotion. National Board of Medical Examiners, Part I, examinations are given as part of the testing of achievement in individual disciplines and are incorporated in the final grade for that course. The student is encouraged to take the complete Part I examination as a candidate for National Board certification near the end of the second year. The Part II examination is required as a comprehensive test in clinical science at the end of the third year and results are incorporated in the final grades for clinical clerkships.

The overall performance of the student on the National Boards will be taken into account by the Committee on Academic Standards when considering decisions regarding promotion, and by the faculty when making the official recommendation for granting degrees.

All states require that physicians be licensed to practice medicine. Satisfactory completion of all portions of the National Board of Medical Examiners examination is one mechanism by which a license may be obtained.

Promotions and Progress

The Committee on Academic Standards administers the promotions and dismissal rules. Exceptions may be made only on recommendation of the committee. The application of rules on dismissal is not automatically changed by removal of Incomplete (I) grades or by the repetition of courses in other medical schools.

1. The Committee on Academic Standards of the School of Medicine reviews the performance of each student in every course at the end of each academic period and makes recommendations to the Dean. If a student has been found to have an unsatisfactory performance in any of the required courses, dismissal from the school may be recommended. In selected circumstances, the committee may recommend remedial work or repetition of all or a portion of the curriculum.

Rarely, a student may be subject to remedial work or dismissal on recommendation of the Committee on Academic Standards to the Dean even though no Unsatisfactory (U) grade has been received in a required course. Such an unusual event would occur only if, in the opinion of the committee, the student's overall performance does not meet the academic standards of the School of Medicine.

2. No student will be permitted to register for any work of the second or subsequent year until all courses for the year before have been completed successfully.

3. All courses and all classes at the School of Medicine are graded as Satisfactory (S) or Unsatisfactory (U) at the completion of the course in lieu of other letter grades. The S and U designation is accompanied by a narrative report of the student's progress and any factors requiring remedial work or counseling. The U shall be regarded as a failing grade and all University regulations regarding a failed course shall then apply.

4. Readmission of a dismissed student is the prerogative of the Committee on Admissions after careful review of the student's performance, including but not limited to, recommendations of the Committee on Academic Standards.

5. All nondisciplinary matters are governed by the concept of academic due process.

6. Upon concurrent recommendation of the Committee on Admissions, the Committee on Academic Standards, and the departments concerned, a limited number of students may be admitted to the School of Medicine to follow a special schedule reflecting the student's individual needs to complete requirements for the M.D. degree.

In view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of the University the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

Incomplete Courses

The grade of Incomplete (I) is given when the instructor believes the work is unavoidably incomplete or that a supplementary examination is justifiable. If a grade of I is not removed by satisfactory completion of the work before the end of the next semester in which the student is in residence, it becomes a failure unless special permission to postpone the work is obtained from the Committee on Academic Standards (University rule.) It is the responsibility of the student to consult the instructor about the means and schedule for making up incomplete courses.

Departure From Scheduled Work

Medical students must register for all prescribed courses for each semester except by special permission from the Committee on Academic Standards of the School of Medicine. This permission is not valid until it has been reported to the Assistant to the Dean of Admissions and Records, Medical Center, for record.

Departure

Interruption of academic work must be approved by the Committee on Academic Standards in its recommendation to the Dean except in urgent circumstances, such as for illness.

Honor Code

Students in the School of Medicine agree to abide by the provision of an honor code which requires ethical and moral standards of conduct in all situations.

Immunizations

It is required that during the first semester of the first year all students must complete certain prescribed immunization and diagnostic procedures.

University Hospital and Outpatient Clinics

University Hospital and its outpatient clinics are dedicated to the education of students in the multiple disciplines of the health fields and to the advancement of knowledge in the sciences and arts concerned with health and illness.

Specialist services at University Hospital are provided through the staff of the clinical departments of the School of Medicine.

There are also facilities and staff for clinical laboratory service, diagnostic and therapeutic X-ray services, and such special examinations as electrocardiography, cardiac catheterization, and electroencephalography. Emergency facilities are available at all times.

Organizations

Graduates of the School of Medicine have a *School of Medicine Alumni Association* devoted to the interests of students and graduates and to the encouragement of scientific and professional progress among its members and the medical profession generally.

Student American Medical Association. This organization has a chapter among the students of this school. An Auxiliary provides opportunities for student wives to meet and work together.

Student National Medical Association. This organization has among its objectives assistance in the recruitment and retention of minority students.

Lectureships

Alumni Lectureship. Annually some outstanding physician is brought to the WVU Medical Center under School of Medicine Alumni Association sponsorship to address the student body.

Gideon Stanhope Dodds Lectureship. A periodic lectureship, founded by a group of alumni and friends, honors Dr. Dodds, late professor emeritus of histology and embryology.

Curriculum Plan

First and Second Years

The plan of study is directed toward the principles and methodology of the medical basic sciences. However, the basic courses are designed so that the student begins to integrate concepts of patient care.

The student has the opportunity of an additional early exposure to patient-oriented instruction through the introduction to physical diagnosis and community medicine in the first term of the freshman year.

With the recognition that entering medical students have a wide variety of interests and backgrounds, elective opportunities are offered in the basic science years, beginning with the second term of the freshman year. The permissible elective courses or plans of study have broad limits and need not be confined to the Medical Center. The intention is to encourage responsible student initiative.

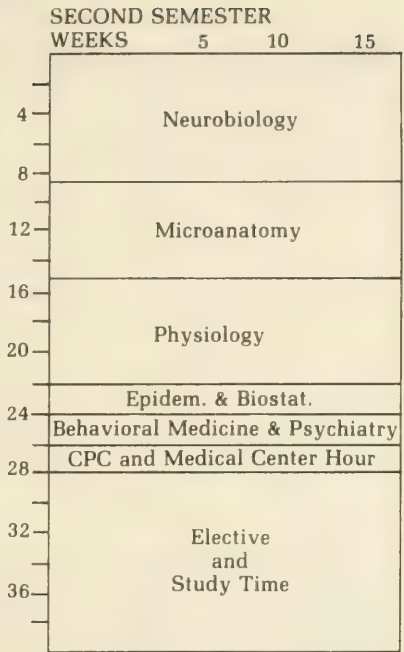
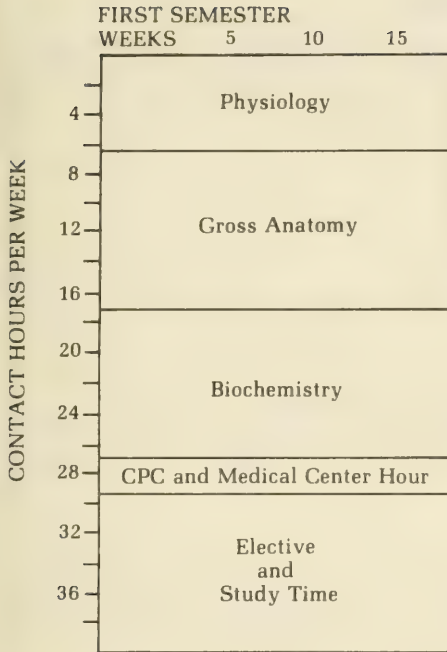
See Medicine I and Medicine II charts for representative schedules.

Third Year

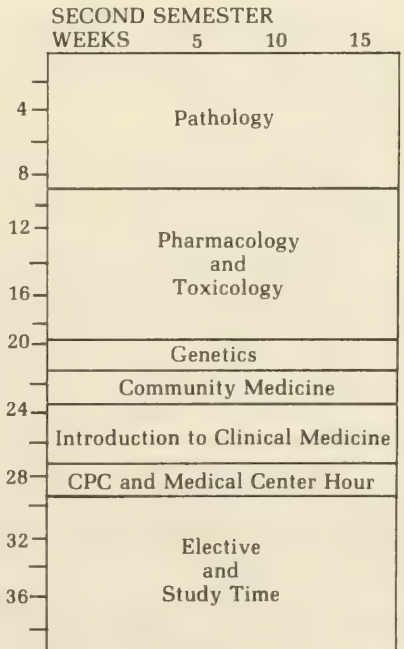
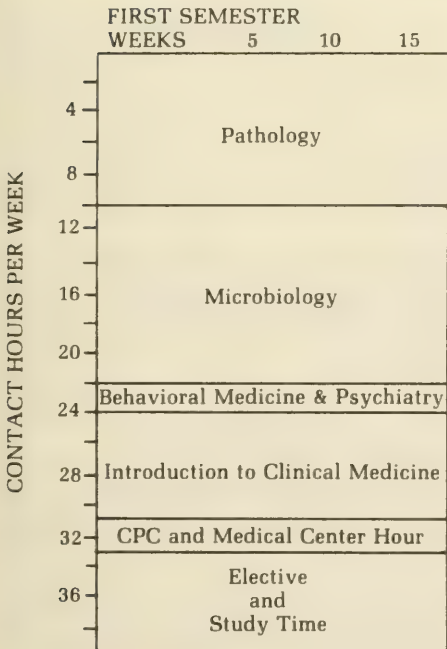
A tightly-structured traditional third year gives the student a foundation in history-taking, examination, patient relations, laboratory aids, diagnosis, treatment, and use of the medical literature in the major clinical disciplines.

A number of third-year students will spend part or all of the year in specified clerkships at the Charleston Division of the WVU Medical Center or other affiliated programs as designated by the faculty of the School of Medicine.

MEDICINE I



MEDICINE II



MEDICINE III

Clerkships

WEEKS

12	Medicine
12	Surgery
12	Behavioral Medicine and Psychiatry
	Obstetrics and Gynecology
12	Pediatrics
	Neurology, Pediatrics OPD, Acute Medicine
48	TOTAL

Ordinarily, third-year students should take Part II of the NBME in September of their fourth year. Under special circumstances, third-year students may take Part II of the NBME in April of their third year even though they will not have completed all of their clinical clerkships.

Fourth Year

The fourth year is selective. The student chooses one of three "tracks" and works with advisers at each tract to select the individual program. The general track is appropriate for: (1) the student pointing toward family practice, and (2) the student who has not selected a particular speciality interest.

The student chooses a specialty track by department, and may already recognize an attraction to a sub-specialty within that department. The research track offers opportunity to spend much of the fourth year in medical or biological research.

Sixteen of the 44 weeks must be spent in intramural programs. In addition to programs on the Morgantown campus, the programs at the Charleston Division—WVU Medical Center, qualify as intramural. A similar designation for specific programs is in development at the Wheeling Division—WVU School of Medicine and the Veterans Administration Hospital in Clarksburg. A folder is available that lists the approved intramural selective options.

A number of assigned fourth-year students will take all of their clerkships at the Charleston Division of the WVU Medical Center.

The Joint Council of Teaching Hospitals, working with physicians in various communities and the School of Medicine, has developed extramural selective opportunities at a number of hospitals in West Virginia. Alternatively, the selectives may be spent at a university or university-affiliated hospital.

Every student has the opportunity for 4 weeks of vacation. The student may choose valuable medical experience for vacation time.

A separate booklet lists the extramural in-State electives and provides specific guidelines for the fourth-year curriculum.

MEDICINE IV
Three Alternative Tracks

WEEKS	GENERAL	SPECIALTY	RESEARCH
4	Vacation	Vacation	Vacation
12	Special Selective Advisory Group Concurrence	Special Selective Department Chairperson Concurrence	Special Selective Advisory Group Concurrence
8	Clinical Neuro Sciences, Behavioral Medicine and Psychiatry, Radiology Ob Gyn or Pathology Including Clinical Pathology	Department Chairperson Approval	Advisory Group Approval
8	Medicine and or Pediatrics, Including Sub Specialty Units		
8	Surgery, Including Sub Specialty Units		
4	Acute and Ambulatory Care		
44	TOTAL		

Courses of Instruction

Anesthesiology (Anes.)

Professors Eller (*Chairperson*), Heironimus, Smith, and Rodman; Associate Professors Dedhia, Doshi, Graf, Martinez, and Zimmerman; Assistant Professors Beatty, Green, Jopling, Schiebel, and Teba; Instructor Long; Clinical Professors Cwik, Weeks, and Zeedick; Clinical Associate Professors Bettinger, Hall, Koliner, Lilly, and Tercan; Clinical Assistant Professors Bellotte, Carter, Douglass, Gannon, Glicken, Hovis, Jawalaker, Kessell, Larkin, Mathew, Palle, Rajaratnam, Scheinholtz, and Westmoreland; Clinical Instructors Chevuru, Mixon, Saldanha, Thompson, and Walker.

301. *Basic Sciences Applied to Anesthesia—Medicine I and II.* 1-6 hr. per year. PR: Consent. (Not offered during summer.) Examination and evaluation of data, decision-making, discussion of special procedures. (Max. enrollment: 10.)
331. *Clinical Clerkship in Anesthesiology/Acute Medicine. (Third Year.)* CR.
- A. *Lectures to Third-Year Students on Topics Related to Anesthesiology.*
- B. *Clinical Clerkship in Acute Medicine.* Preanesthetic evaluation, local and systemic anesthesia, airway management, cardiopulmonary resuscitation, respiratory care, clinical pharmacology, toxicology, fluid and blood therapy, and pain management. Seminars and practical exercises in emergency cardiac life support clinical experience in ICU or OR. (Duration: 2 weeks.)
- C. *Pain Clinic.* Objective: To evaluate and treat patients with intractable pain from various disease states. Direct participation through a multidisciplinary approach using modalities of nerve blocks, physical therapy, sensory modulation, behavioral therapies, and neuropharmacology. Participation from Departments of Anesthesiology and Behavioral Medicine and Psychiatry. Duration: 2-8 weeks. Offered: Continuously. (Max. enrollment: 2.)
399. *Selective Experiences in Anesthesiology. (Fourth Year.)* CR. (See Conjoined Courses.)
- A. *Clinical Anesthesiology.* Participation in all aspects of intensive and respiratory care. Laboratory methodology. Measurement of ventilatory and circulatory parameters. Ventilator use and management. Offered continuously. Duration: 4 weeks. (Max. enrollment: 2.)
- B. *Intensive and Respiratory Care.* Direct participation in all aspects of intensive and respiratory care. Laboratory methodology. Measurement of ventilatory and circulatory parameters. Ventilator use and management. Offered continuously. Duration: 4 weeks. (Max. enrollment: 2.)
497. *Anesthesiology Research.* 1-15 hr. Participation in a variety of ongoing clinical research projects and/or in laboratory research related to the mechanism of action of analgesic drugs upon neurotransmitters and neuronal pathways involved in pain inhibition particularly monoaminergic and opioid processes. Duration: 4-24 weeks. Offered: By arrangement. Max. enrollment: 2.

Behavioral Medicine and Psychiatry (B.M.)

Professors Azzaro, Carter, DeVaul, Flink, Kelley, Morgan, Morgan, Quarrick, Stevenson (*Chairperson*), Waldman, and Watne; Associate Professors Claude, Clausell, Colvin, Cone, Ellis, Kelley, Kommor, Linton, Orr, Pepper, Reamy, Robison, Seime, Smith, Tinnin, and Walker; Assistant Professors Bhanot, Dahlquist, Desai, Ganahl, King, King, Koon, Nash, Peoples, and Roberts; Research Assistant Professor Sullivan; Adjunct Professor Levine; Adjunct Associate Professors Barnette and Elkins; Adjunct Assistant Professors Desai, Faris, Hamilton, Harms, and Stephen; Adjunct Instructor Kent; Clinical Professors Ayd, Bateman, Callahan, Comer, Haynes, Marquis, Mortell, Rossman, Weise, Withersty, and Wurmser; Clinical Associate Professors Collins, Edelstein, Edwards, Faheem, Goodman, Greenwood, Hibbard, Ingersoll, Kerns, Knapp, Nahemow, Panepinto, Settle, Smith, Srebalus, Strokes, Ward, and Zarski; Clinical

Assistant Professors Allen, Almond, Brailier, Capage, Chambers, Davis, Dickey, Donovan, Dunning, Fawley, Fink, Frye, Guy, Hamilton, Hasan, Hill, Hoback, Hutton, Kovacevich, Lavine, Ledwell, MacCallum, McCluskey, McNeer, Morgan, Naviaux, Neilan, Panepinto, Portz, Puzzuoli, Sine, Smith, Smith, Soule, Stein, Tellers, Webb, and Williams; Clinical Instructors Caruso, Fawley, Gantt, and Hunter.

311. *Introductory Psychiatry. (First Year.)* 2 hr. An examination of major clinical syndromes and their biological and environmental concomitants. Introduction to patient care with interviewing techniques and limited patient work-ups under supervision.
321. *Introductory Psychiatry. (Second Year.)* 2 hr. Continuation of B.M. 311 with an in-depth look at more basic science and social science parameters in psychiatry. Additional supervised patient work-ups and presentations.
341. *Clinical Clerkship in Psychiatry. (Third Year.)* CR. Required of third-year medical students. Full-time assignment to the inpatient service in psychiatry and participation in diagnosis and treatment of psychiatric disorders. Emergency Room responsibility.
355. *Behavioral Science and Health Care.* Behavioral science applied to issues related to physical and mental health care. Variety of topics will be considered, such as study of interpersonal roles and games, various cultural "healing" practices, personal and social aspects of illness, family disorganization, and hospitals and related institutions.
399. *Selected Experiences in Behavioral Medicine and Psychiatry. (Fourth Year.)* (See Conjoined Courses.)

Community Medicine (C. Med.)

Professors Pearson (Chairperson) and Mou; Clinical Professor Hansbarger; Adjunct Professors Carlton and Crews; Associate Professors Hall, Fine, and Wyant (Assistant Chairperson); Clinical Associate Professors Cooley, Greenwood, Hinton, Mukkamala, Smith (Emeritus), and Wiles (Emeritus); Adjunct Associate Professors Ames, Brough, Goodwin, and Graham; Assistant Professors Garland and Murray; Adjunct Assistant Professors Attfield, Harper, Patil, Reger, and Sieber; Clinical Instructors Atkins, Lee, and Patton.

311. *Methods of Biostatistics. I.* 3 hr. PR: Math. 3. Basic concepts of statistical models, distributions, probability, random variables, test of hypotheses, confidence intervals, regression, correlation, F and χ^2 distributions, analysis of variance with emphasis on methods of biostatistics. (Equiv. to Stat. 311.)
312. *Community Medicine. (Second Year.)* II. 2 hr. Open to limited number of graduate students. PR: Consent. The role of the physician in the prevention of disease and in the examination of health status in a community, with reference to demographic, economic, sociologic, environmental, and occupational factors. The organization of public health and medical care.
322. *Epidemiology and Biostatistics. (First Year.)* II. 2 hr. PR: Consent; medical students only. Epidemiological and statistical analysis of biologic phenomenon as related to medicine. Emphasis on descriptive statistics, analytical epidemiology, statistical inference, measures of association, and evaluation of medical literature.

Conjoined Courses (CC MD)

399. *Selective Experiences in Medicine. (Fourth Year.)* I, II, S. CR. PR: Satisfactory completion of first three years of the medical curriculum. (Graded as S or U.) The selective program offers a wide range of opportunities in the basic sciences, medical specialties, and sub-specialties, and in family medicine. The year is composed of eleven 4-week blocks. Six must be spent at the WVU Medical Center in Morgantown and approved programs at the WVU Medical Center—Charleston Division, WVU School of Medicine. The remainder may be spent at community

hospitals in West Virginia, or at university or university-affiliated hospitals out-of-state. Each student plans an individual program, with faculty advice. Flexibility is permitted. With consent of instructors concerned, the student may, during the year, alter the selective choices. The student must give five weeks' notice before changing an intramural or extramural selection. (See the intramural and extramural brochure, published annually, describing the selective opportunities.)

Family Practice

Professors Traubert (Chairperson); Assistant Professors Arbogast, Cleavenger, Nesselrode, Palmer, and Swinker; Clinical Professors Davis, Hall, Jackson, Jarrett, Simmons, and Tully; Clinical Associate Professors Brooks, A. Cavender, J. Cavender, Fuller, Hess, Jarvis-Eckert, Kellas, Mangus, Newman, Rashid, and Sinclair; Clinical Assistant Professors Clark, Crigger, Dickey, Graham, Hinton, Hofreuter, Lewis, McNeill, Merrifield, Patton, Reed, Ritz, Roberts, Sine, and Warren; Clinical Instructors Bergman, Blum, Casto, Conley, Gais, Harris, Hayes, Hokanson, Jackson, Moss, Nau, Peck, Saver, and Wack; Nurse Clinician Nath; Patient Educator Murray.

399. *Selected Experiences in Family Practice. (Fourth Year.)* (See Conjoined Courses.)

Medicine (Med.)

Professors Waldman (Chairperson), M. Albrink, S. Bekheit, A. DiBartolomeo (Chief, Rheumatology), E. Flink, A. Jain (Chief, Cardiology), J. Jones (Vice-President—Health Sciences), R. Khakoo (Chief, Infectious Diseases), L. Kien, L. Lapp (Chief, Pulmonary Diseases), D. Z. Morgan, E. Morgan, T. Mou (Dean, Charleston Division), R. Ortel, W. Point, P. Raich (Chief, Hematology/Oncology), S. Shane, (Chief, Endocrinology), J. Shultz (Chief, Medicine, Wheeling Division), J. Stevenson (Chief, Behavioral Medicine/Psychiatry), I. Ullrich, W. Welton (Chief, Dermatology), and F. Whittier (Chief, Nephrology); Associate Professors E. Brestel (Acting Chief, Allergy & Clinical Immunology), E. Chideckel, D. Colvin, R. D'Alessandri (Chief, Comprehensive Medicine), H. Dedhia, J. Fontana, R. Gaskins (Chief, Gastroenterology), M. Georgiev, S. Grubb, S. Jubelirer, R. Kleinmann, R. Martin, A. Morise, A. Murgo, W. Orr, E. Petsonk, J. Riggs, P. Robinson, and J. Rogers; Assistant Professors H. Abrons, F. Al-Kawas, J. Brick, W. Engel, T. Finucane, M. Fisher, J. Graves, T. Hogan, D. Johnson, R. Kovach, K. Lempert, M. Mayes, A. Moss, M. Mullins, F. Nullet, J. Neely, F. Oliver, R. Powers, S. Rector, L. Reimer, and A. Stern; Adjunct Assistant Professors R. Castellan, T. Hodous, and E. Storey; Instructor N. Blehschmidt; Adjunct Instructor M. Sepulveda; Clinical Professors Emeriti D. Blatchley, C. Johnson, W. Pushkin, and P. Tuckwiller; Clinical Professors S. Artz, M. Avington, G. Brodmerkel, W. Carter, D. Gaziano, D. Gregory, D. Lee, M. Lewis, R. Marshall, W. McMillian, A. Pfister, R. Point, M. Reiter, M. Santer, P. Saville, H. Selinger, J. Skaggs, and S. Warren; Clinical Associate Professors D. Basu, F. Campbell, T. Chvasta, H. Ducan, R. Gainer, W. Hall, J. Hartman, B. Houston, H. Jackson, D. Jones, C. Koliner, D. Koppel, D. Latos, D. MacCallum, L. McCabe, B. McJunkin, R. Nestmann, W. Noble, L. Palmer, N. Parsons, R. Rectenwald, W. Revercomb, R. Scobbo, L. Thrush, A. Valentine, C. Vasquez, and G. Zaldivar; Clinical Assistant Professors R. Altmeyer, J. Arnett, B. Avashia, C. Begley, J. Byrd, N. Cassis, C. Cornwell, G. Crotty, P. Cunningham, D. Farmer, R. Gomez, S. Guy, P. Harbaugh, T. Harper, W. Hijab, C. Horan, T. Horsman, F. Kerns, R. Lewis, S. Masilamani, V. Mazzocco, M. McCagh, L. McConnell, D. Namay, N. Parsons, M. Patel, J. Previll, J. Richmond, K. Roberts, M. Roidad, R. Romano, R. Scarr, A. Schaeffer, G. Shehl, J. Stone, G. Szego, G. Thakker, and C. Warren; Clinical Instructors S. Bivens, C. Jimenez, R. Layne, A. Lee, R. Lim, D. Powell, and P. Treharne.

321. *Physical Diagnosis—Introduction to Medicine. I, II. 5 hr. PR:* Consent. Examination of normal subjects. Clinical concepts and practical experience in history taking and physical examination.

331. *Clinical Clerkship in Medicine. (Third Year.)* CR. Required of third-year medical students. The individual student is assigned responsibility for specific patients from the in-patient service at University Hospital or Charleston Area Medical Center service. The student is an integral part of the team providing diagnostic and treatment services needed by the patient, under direct supervision of members of the faculty of the department. The student elicits the patient's history, performs physical examinations, and performs or secures indicated laboratory and clinical studies. The student records findings and presents case reports for discussion by members of the faculty during hospital rounds or out-patient clinics. The student attends such staff conferences, etc., as directed by the departments. Clerkship in medicine occupies 12 weeks.
370. *Medical Genetics. II. 2-4 hr. PR:* Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as Gen. 370, Pedia. 370, CC MD 370.)
399. *Selected Experiences in Medicine. (Fourth Year.)* CR. (See Conjoined Courses.)

Neurological Surgery

Professors Nugent (*Chairperson*), Dunker, and Kaufman.

399. *Selective Experiences in Neurological Surgery (Fourth Year.)* (See Conjoined Courses.)

Neurology (Neuro.)

Professors Azzaro, Gutmann (*Chairperson*), Martin, and Schochet; Associate Professors Dove and Fakadej; Assistant Professors Brick, Corey, and Riggs; Clinical Professors Heck and Poffenbarger; Clinical Associate Professor Crosby; Clinical Assistant Professors Kettler, Loudon, Morgan, Pratt, and Swisher.

341. *Clinical Clerkship in Neurology. (Third Year.)* CR. Required of third-year students. Basic fundamentals of the neurological evaluation and neurological diseases. Evaluation and treatment of hospitalized patients with neurological illnesses performed under supervision of attending and resident physicians. Conferences and correlative instruction in neuropathology and neuroradiology.
399. *Selected Experiences in Neurology. (Fourth Year.)* CR. (See Conjoined Courses.)

Obstetrics and Gynecology (Obst.)

Professors Butcher and Cox (*Chairperson*); Professor Emeritus Fugo; Associate Professors Ashraf, Foss, Granados, Miller, and Reamy; Assistant Professors Cruikshank and Toffle; Clinical Professors Behnam, Bonney, Chambers, Elyaderani, Giustini, Mairs, and Palladino; Clinical Associate Professors Arceo, Battaglino, Clark, Crites, Grubb, Keefer, Maxson, Poole, Stone, Williams, and Withersty; Clinical Assistant Professors Athari, Berry, Cunningham, Curnutte, Georgiev, Hitt, Jacobson, Percy, Sandhu, and Wanger; Clinical Instructors Fulcher and Jones.

341. *Clinical Clerkship in Obstetrics and Gynecology.* (Required of third-year medical students.) Presents core knowledge of obstetrics and gynecology with small group instructional seminars, ward rounds, didactic teaching sessions and grand rounds conducted by faculty, house officers, visiting faculty, and students. Students are involved with care of all patients, participating in an essential role in patient care. Experience extends to outpatient clinics in all aspects of obstetrics and gynecology.
399. *Selected Experiences in Obstetrics and Gynecology. (Fourth Year.)* An elective subinternship in obstetrics and gynecology with major responsibility for patient care beyond that provided during the third-year curriculum. Students participate in outpatient and inpatient care with delegation of responsibility commensurate

with level of training and ability. Supervision is provided by house officers and faculty. Greater participation in surgical procedures is provided, as well as active participation in complicated obstetrical patients.

Ophthalmology (Ophthal.)

Professors Weinstein (*Chairperson*) and Colasanti; Clinical Professors Ryan and Trotter; Clinical Associate Professors Blaydes, Hamrick, Magee, Nugent, O'Conner, Raju, Shepherd, Schwab, and Winkler; Assistant Professors Farber, Linberg, Odom, and Schwab; Clinical Assistant Professors Fiery, Fogle, Genin, Pangilinan, Park, Rashid, Strauch, Strickland, Tarakji, Toma, and Werblin; Clinical Instructors McClure, Minardi, Scheive, and Schieb.

399. *Selected Experiences in Ophthalmology. (Fourth Year.)* (See Conjoined Courses.) Students are presented with the opportunity to acquire clinical skills in ophthalmology including techniques of eye examinations and certain aspects of emergency and elective treatment of eye disorders. There is close supervision by housestaff and members of the full-time ophthalmology faculty. Areas of special faculty interest include glaucoma, corneal diseases, retinal and vitreous diseases, and oculoplastic surgery. There are opportunities for students to participate in basic and clinical research. This experience occupies four weeks and can accommodate a maximum of 2 students and an additional student for a research project.

Orthopedic Surgery (Orth. Surg.)

Professor Radin (*Chairperson*); Professor Emeritus Pickett; Clinical Professor Davis; Associate Professors Blaha and Jones; Clinical Associate Professor Bowers; Assistant Professor Labosky; Clinical Assistant Professor Stoll; Clinical Instructor Kurth.

399. *Selected Experiences in Orthopedic Surgery. (Fourth Year.)* (See Conjoined Courses.)

Otolaryngology (Otolaryn.)

Professors Sprinkle (*Chairperson*), Cody, and Lass; Clinical Professors Hall and Morgan; Clinical Associate Professors Bryant, Cather, Haislip, Hatfield, Jaquiss, Kamerer, Lim, Malone, Mathias, Oliverio, Paine, Spencer, and Whitaker; Assistant Professors Hayden and Young; Clinical Assistant Professors Azar, Bland, Dodd, Nichols, Seung, Snider, Sporck, Tekieli, Wade, and Wilkinson; Instructors Corey, Laurent, and Riester; Clinical Instructors Barr, Berryman, Hoge, and Wallace.

399. *Selected Experiences in Otolaryngology. (Fourth Year.)* (See Conjoined Courses.)

Pediatrics (Pedia.)

Professors Neal (*Acting Chairperson*), Amato, Hrabovsky, Kelley, Kien, and Klingberg; Associate Professors Dove, Fakadej, Gilman, Jenkins, Kelley, Mullett, Myerberg, Phillips, and Wible; Research Associate Professor Connors; Assistant Professors Balian, Desai, Howland, Liechty, Moeschler, Shaver, Tarry, Yeager, and Zurich; Research Assistant Professor Strasburger; Instructor Sutherland; Clinical Professors Hansbarger, Harrison, Jakubec, Potterfield, and Stabins; Adjunct Associate Professor Woodrum; Clinical Associate Professors Ayoubi, Burech, Holyman-Ayoubi, Israel, Kumar, Lewine, and Wolfe; Adjunct Assistant Professors Hahon and Hilligoss; Clinical Assistant Professors Barron, Binder, Kossack, Lambrechts, Lawrence, Morgan, Mossahabi, Rhee, Staab, Szego, and Verma; Clinical Instructors Grijalva, Iskander, Majumder, and Uy.

331. *Clinical Clerkship in Pediatrics. (Third Year.)* CR. Required of third-year medical students. See description of clinical clerkship under Med. 331. Clerkship in Pediatrics occupies 6 weeks.

370. *Medical Genetics*. II. 2-4 hr. PR: Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as CC MD 370, Gen. 370, Med. 370.)

399. *Selected Experiences in Pediatrics*. (Fourth Year.) (See Conjoined Courses.)

Radiology (Radiol.)

Professors Gabriele (Chairperson) and Frich; Associate Professors Lai, Sinha, Slack, Tehranzadeh, and Wald; Assistant Professors Barnett, Conn, Liu, Jain, Mace, Secrist, Willard, and Yoshizumi; Adjunct Assistant Professor Raofi; Clinical Professors Castro, Goodwin, Elyaderani, and Kennard; Clinical Associate Professors Barger, Bishop, Hayes, Hogan, Rogers, Sexton, Smith, Szalontay, Wilder, and Williams; Clinical Assistant Professors Abdalla, Briley, Caruso, Cordell, Crossen, Duncan, Francke, Gulati, T. Hayes, Hetzer, Kalinowski, Kim, King, Koh, Koppikar, Leef, Levy, Marano, Markowitz, Nagarajan, Noble, Patterson, Reddy, Rosenblatt, Stupar, Tanguilig, Wershba, Wheatly, Weimer, Wymer, and Yost.

The radiology staff aids in the instruction of students at all levels of the curriculum. They assist in the teaching of topographic anatomy in the first year. The careful interpretation of roentgenograms is an integral part of each clinical service.

101. *Radiology*. Selected experiences in general radiology.

102. *Neuroradiology*. Review of neuroanatomy with respect to application in neuroradiology. Selected experiences in neuroradiology.

103. *Cardiovascular Radiology*. Review of anatomy and embryology. Selected experiences in central and peripheral vascular radiology.

104. *Radiologic Physics*. Application of physics and mathematics to radiology, nuclear medicine, and radiation therapy.

399. *Selected Experiences in Radiology*. (Fourth Year.) CR (See Conjoined Courses.)

Surgery (Surg.)

Professors Watne (Chairperson), Boland, Hrabovsky, Moran, and Warden; Clinical Professors Bradford (Emeritus), Charbonniez, Cochran, Gilmore, Gray, Hershey (Emeritus), James, Linger, McConnell, Mendoza, O'Dell, Trenton, and Walker; Associate Professors Covey, Foshag, Kusminsky, McDowell, Savrin, and Vargish; Clinical Associate Professors Bock, Dickey, Ghaphery, Glass, Harrison (Emeritus), Kappel, J. Khan, M. Khan, King, Kusminsky, Lawton, Leadbetter, Looby, MacDonald, Markey, Polack, Rahbar, Schaefer, Shabb, Surmonte, Valasquez, Voss, and Williamson; Assistant Professors Apeltgren, Bonnitatus, Gustafson, Rector, and Veach; Clinical Assistant Professors Aburahma, Al-Hajj, Amores, Barcinas, Boustany, Capito, Chang, Cone, Dickie, Elliott, Evans, Fedde, Figueroa, Fogarty, Foster, Getty, Grant, Griswold, Heiskell, Johnson, Kessell, Kim, Kress, Kuban, Lee, McLellan, Mantz, Mossallati, B. Page, J. Page, Porcaro, Rao, Rashid, Reed, Robinson, Sampath, Shackelford, Scheler, Suson, Trammell, Vaghei, Walmsley, and Waluzak; Instructors Jackson, Johnson, Makos, Swanson, and Tiley; Clinical Instructors Cowan, Dasari, Neri, Patel, Strauch, and Thrush.

341. *Clinical Clerkship in Surgery*. (Third Year.) CR. Required of third-year medical students. Clinical clerks are assigned responsibility for hospitalized surgical patients under supervision of house staff and attending surgeons. Students are an integral part of the team providing diagnostic and treatment services and are expected to take histories, perform physical examinations, and participate in ward and laboratory procedures. An elective laboratory experience is offered. A course of surgical lectures, designed to outline surgical core curriculum, is given concurrently. The student is expected to attend the daily rounds and conferences arranged by the department.

399. *Selected Experiences in Surgery*. (Fourth Year.) (See Conjoined Courses.)

Urology (Urol.)

Professors Kandzari and Milam (Chairperson); Associate Professor Belis; Assistant Professor Tarry; Clinical Professor Summers; Clinical Associate Professors Lane, McCoy, McCuskey, and Trapp; Clinical Assistant Professors Celis, Durig, Lee, Lindert, Naranjo, Palmer, Ravitz, Serrato, Shannon, and Stoughton; Clinical Instructors Bailey, Faddoul, Kassis, McClellan, and Recht.

399. *Selective Experiences in Urology. (Fourth Year.)* (See Conjoined Courses.)

Medical Technology Undergraduate Program

The undergraduate program in medical technology is under the administration of the School of Medicine. Students are admitted into the program leading to a bachelor of science degree after the completion of two years of premedical technology in an accredited college or university. The WVU Medical Technology Program is accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association. Graduates are eligible for certification by the Board of Registry of the American Society of Clinical Pathologists (ASCP) and by the National Certification Agency for Medical Laboratory Personnel (NCA).

The undergraduate curriculum includes the premedical technology program, which is offered in the WVU College of Arts and Sciences and at Potomac State College in Keyser and the medical technology program which is offered in the School of Medicine.

Courses of the first two years (premedical technology) may be taken in any institution of recognized standing that offers the courses required for admission into the medical technology program.

Since the course of study of the last two years is of a professional nature, students must be enrolled in the WVU School of Medicine for this entire period. The work of the junior year (the first year in the medical technology program) includes courses which introduce the student to the medical sciences and courses which prepare the student for the work of the senior year. During the senior year (the second year in the medical technology program) the student receives both didactic instruction and practical experience in the University Hospital laboratories.

Aim and Purposes

The primary aim of the program in medical technology at WVU is to provide a strong undergraduate educational program in medical technology which leads to a bachelor of science degree and which provides an educational background compatible with the demands placed upon the medical technologist by the ongoing technological revolution in laboratory medicine.

The purposes are: (1) to provide a program in medical technology which meets the academic standards of the University; (2) to provide graduate medical technologists for clinical, public health, and research laboratories; (3) to provide an educational background which enables graduates to prepare for teaching and supervisory positions in medical technology; and (4) to provide an educational background acceptable for graduate work in the medical sciences.

A program for certified medical technologists, who desire to complete requirements for a Bachelor of Science degree is available. (Further information may be obtained by contacting the Medical Technology Programs Office.)

Admission

Application for admission into the junior year (first year in the undergraduate medical technology program) should be made before the beginning of the second semester of the sophomore year in college. *Students at WVU or Potomac State College are not transferred automatically from the preprofessional course (first two years) to the professional course (third and fourth years.)* Students are selectively admitted to the program for their final two years of work.

Application forms for admission to the professional course are available after December 1 from the office of the Assistant to the Dean of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. These forms should be completed and returned to that office no later than February 1, if the student expects to enter the succeeding first semester classes.

Admission to the third year is on the recommendation of the Admissions Committee to the Dean. A personal interview with the Committee is required.

Admission Requirements

Complete information concerning WVU admission, fees and costs, registration, regulations, etc., may be found in the *WVU Undergraduate Catalog*, College of Arts and Sciences section.

(a) Admission requirements for the first year (premedical technology) are those for the College of Arts and Sciences.

(b) Admission to the third year (first year of the medical technology program) is based upon two years of college work with a total of 62 hours as follows:

English. 6 hours. (Composition and rhetoric.)

Biological Science. 8 hours. (General biology or general zoology.)

Chemistry. 15-16 hours. (Inorganic chemistry, 8 hours; quantitative analysis, 3-4 hours; organic chemistry, 4 hours.) (Transfer students are required to have a complete course in organic chemistry to include aliphatic and aromatic compounds, 8 hours.)

Physics. 8 hours.

Mathematics. 3 hours. (College algebra is the minimal course requirement.) Trigonometry, or higher mathematics, is recommended.

Electives to complete the required hours and to meet WVU Core Curriculum requirements.

Courses such as bacteriology, parasitology, and anatomy should not be taken until after the completion of the sophomore year. A foreign language is recommended for students who plan to do graduate work.

Admission to the Program

1. Applicants should have a minimum grade-point average of 2.5 (cumulative and science). Applicants with less than a 2.5 grade-point average (either cumulative or science) may be admitted on probation. The cumulative grade-point averages for probation are based on all completed prerequisites. Applicants with less than a 2.0 grade-point average, either cumulative or in the sciences, will not be admitted. A grade-point average of 2.5, or above, does not necessarily assure admission.

2. References will be reviewed and considered.

3. Applicants admitted to the program must maintain a grade-point average of 2.0 each semester. Students in the Medical Technology Program are expected to conduct themselves in a manner consistent with the ethics of the profession.

Academic Advancement and Standing

Junior Year—(First Year in the Medical Technology Program)

1. Any student having one or more Fs or more than 2 Ds at the end of the junior year will be suspended from the program.

2. Academic due process will be followed when students are suspended from the program.

3. No student with a grade-point average of less than 2.0 will be advanced to the senior year. A student admitted to the senior year with any grade of I (Incomplete) must satisfactorily remove the Incomplete within the following semester, unless permission for an extension is granted by the Senior Year Committee on Academic Standards.

4. No student will be advanced to the senior year unless recommended by the Junior Year Committee on Academic Standards regardless of academic average.

CURRICULUM PLAN

Premedical Technology

First Year

First Semester	Hr.	Second Semester	Hr.
Chem. 15—Inorganic	4	Chem. 16—Inorganic	4
Elective*	3	Engl. 1—Comp. & Rhet.	3
Math. 3, 4, or higher	3	Elective*	3
Biol. 1	4	Biol. 2	4
M. Tec. 1**	1	M. Tec. 2**	1
	15		15

Second Year

First Semester	Hr.	Second Semester	Hr.
Chem. 115—Analytical	4	Chem. 131—Organic	4
Electives* or M. Tec. 3**	6-7	Electives*	7-9
Phys. 1	4	Phys. 2	4
Engl. 2—Comp. & Rhet.	3		
	17-18		15-17

*Electives from Group A and Group B are to be selected to meet University Core Curriculum requirements.

**M. Tec. 1 and 2 are not required subjects. It is highly recommended that all students take these courses. M. Tec. 3 may be taken in the sophomore year if electives are completed.

Medical Technology

Third Year

(Medical Technology I)

First Semester	Hr.	Second Semester	Hr.
M. Tec. 100	4	Parasitol. 224	4
Bioch. 139	5	M. Bio. 223	5
Physi. 241	4	Bioch. 239	4
Elective	3	M. Tec. 101	4
	16		17

Second Year

- 1. To successfully complete the senior year, a student must maintain an overall grade-point average of 2.0 for each semester of the senior year.
- 2. The faculty of the program may suspend or place on probation at anytime a student who is not maintaining a 2.0 grade-point average.
- 3. If, in the judgment of an instructor, a student demonstrates a marked lack of understanding of course material, even though the student has an acceptable didactic average, a grade of I (Incomplete) will be submitted for that student. It is the student's responsibility to consult with the instructor for removal of an Incomplete.
- An Incomplete grade must be removed within the following semester or will be recorded as F unless an extension has been petitioned for by the student and granted by the Senior Year Committee on Academic Standards.
- 4. Graduation requires completion of all academic work in a satisfactory manner and recommendation of the faculty of the School of Medicine.
- 5. If in the judgment of the faculty a student's overall performance is not consistent with good patient care or the public interest (regardless of grade-point average), the student may be suspended or required to do remedial work.
- 6. To suspend a student with an acceptable grade-point average requires appropriate documentation and recommendation from two thirds of the faculty in the program of medical technology.
- 7. Academic due process will be followed when students are suspended.
- 8. Any student who withdraws from the program in the senior year for any reason must petition the faculty in medical technology for readmission if such is desired.

Fourth Year
(Medical Technology II)

Students receive didactic and clinical instruction in the University Hospital laboratories after completion of the junior year. The course of study begins with the summer session and covers three academic semesters. Students may be required to be "on duty" at irregular hours due to the professional nature of the collegiate program. Likewise, if the student has excessive absences during the senior year, the time loss must be made up at the end of the school year.

Students register for the following courses during the three semesters of study.

Hr.

M. Tec. 200—Orientation	No Credit
M. Tec. 220—Immunohematology and Blood Banking	2
M. Tec. 221—Immunohematology and Blood Banking Laboratory	5
M. Tec. 230—Clinical Chemistry	2
M. Tec. 231—Clinical Chemistry Laboratory	5
M. Tec. 240—Clinical Hematology	2
M. Tec. 241—Clinical Hematology Laboratory	5
M. Tec. 250—Clinical Microbiology	2
M. Tec. 251—Clinical Microbiology Laboratory	5
M. Tec. 260—Instrumentation	2
M. Tec. 265—Laboratory Management	2
M. Tec. 270—Clinical Microscopy	2
M. Tec. 275—Clinical Histopathology	2
M. Tec. 280—Clinical Immunology	2
M. Tec. 290—Scientific Research and Writing	1-4

Degree

The degree of Bachelor of Science in Medical Technology is granted to those students who have completed the prescribed curriculum and who have been recommended for the degree by the faculty of the School of Medicine.

Graduate Program

The WVU Medical Technology graduate program prepares graduate medical technologists for positions either as administrators and teachers in medical technology educational programs, or as supervisors in special areas of the clinical laboratory. The primary objective is to assist in development of knowledge in an area in administration, in education, or a special area of interest selected by the student which may be a special medical laboratory science as the specific area applies to laboratory medicine. Specializations include clinical chemistry, clinical microbiology, hematology, and immuno-hematology. The specific course work requirements for the master of science degree rests with the graduate adviser in the student's specific area of interest.

Graduate Committee: Professors R. Iammarino, H. Mengoli, D. Moore, Jr., and N. Rodman.

Admission (M.S.)

Applicants must have a baccalaureate degree in medical technology from an accredited institution or a baccalaureate degree in an allied field and be a certified medical technologist with an acceptable certifying agency.

The area of concentration in medical technology desired by the student is considered in the evaluation of the undergraduate record as follows:

1. Individuals who desire to do special study in clinical chemistry, hematology, or immuno-hematology must have completed a minimum of 8 hours of physics, 3 hours of mathematics, 4 hours of organic chemistry, and 4 hours of quantitative chemistry on the college level.

2. Individuals who desire to do special study in microbiology must have completed 4 hours of organic chemistry and 16 hours of biological sciences.

3. A minimum of one year's experience in a clinical laboratory is required for admission.

Students will be required to make up deficiencies in the above, as well as other deficiencies deemed necessary by the adviser.

Applicants must have a minimum undergraduate grade-point average of 2.5 (based on A equals 4.0 grade points) for admission.

All applicants to the graduate program are required to take the general aptitude part of the Graduate Record Examination. Results should be sent to the Medical Technology Programs Office, West Virginia University, Morgantown, WV 26506.

Two letters of reference must be on file in the Medical Technology office. One letter should be from the major adviser in the undergraduate college and another from the immediate supervisor of the applicant's present position. An interview will be requested for all applicants who meet the requirements for admission.

Applicants are selected for admission on the basis of scholastic standing, recommendations, and interest in the field of medical technology. The number of applicants accepted is necessarily limited by the available facilities; and in general, applicants with the most experience are considered first.

Application Procedure

A preliminary application is filed in the Medical Technology office.

Letters of recommendation are sent to the Medical Technology Programs Office.

After approval of the preliminary application, the admission procedure is the same as for other programs in WVU graduate studies.

A personal interview may be required before final admission to the program. This interview will give the graduate student an opportunity to evaluate the program and to determine if the program will offer the educational opportunities which the student desires.

Course of Study

It is expected that the students who enter the graduate program in Medical Technology will have a goal in mind and a special field of interest in medical technology. The program is tailored to the needs of the student as far as possible. A minimum of 36 semester hours of credit including a research problem is required. The student selects a major area of concentration from either education, supervision, or administration, and a minor area from clinical microbiology, clinical chemistry, clinical hematology, or immunohematology.

A minimum of 12 semester hours of course work in education to include the following is required of all students:

(A). The three following courses are required:

Ed. P. 320—Introduction to Research	3 hr.
Ed. P. 330—Advanced Education Measurements	3 hr.
Ed. F. 320—Philosophic Systems and Education	3 hr.

(B). The student selects *one* of the following:

Hl. Ed. 305—Philosophy of Health Education	3 hr.
BAHR 260—Media and Microcomputers in Instruction	3 hr.
BAHR 360—Behavior Analysis: Teacher/Training Systems	3 hr.
BAHR 361—Cybernetic Systems of Individualized Instruction....	3 hr.
Ed. P. 450—Psychological Foundations of Learning	3 hr.
Ed. P. 451—Principles of Instruction	3 hr.
Ed. A. 330—Principles of Education Leadership.....	3 hr.
Ed. A. 331—Principles of Supervision	3 hr.
Ed. F. 300—Sociology of Education.....	3 hr.

(C). Ed. P. 311 (Statistical Methods), Stat. 311 (Statistical Methods), or C. Med. 311 (Biostatistics), is strongly recommended.

Other courses to complete 36 semester hours are selected by the student (with the help of the adviser) in the area of concentration selected by the student. Students may select courses in departments in schools other than the School of Medicine.

All students must complete a minimum of 18 semester hours in a science related to medical technology including Seminar (3 hr.) and Problem Study (6 hr.).

All students must rotate for orientation purposes through all sections of the University Hospital Clinical Laboratories to include microbiology, hematology, chemistry, immunohematology, and histopathology for a minimum of two days in each laboratory or a total of ten days.

In addition, at the discretion of the student's adviser, other requirements in teaching, supervision, and administration may be necessary.

The adviser works out with the student a plan of study for the entire graduate program. This plan is usually made at the end of the first semester of the student's graduate study. A copy of this "plan of study" is signed by the adviser and student and sent to the Medical Technology Office to be put in the student's file.

Examinations

A final written comprehensive examination in the major and minor interest areas is given approximately one month before the date on which the degree is to be awarded.

An oral defense of the problem is given one month after submission of the Problem Study in its final form to the Graduate Committee.

Requirements for Degree

All requirements for the master of science degree, as outlined in the WVU *Graduate Catalog*, must be fulfilled. These requirements can be fulfilled in three semesters of full-time work, but ordinarily at least four semesters are required for completion of the degree requirements.

Degree candidates must have a 3.0 grade-point average and must have removed all incomplete grades and deficiencies.

All students must complete a problem study (see M. Tec. 497).

Registration Requirement

Owing to the limit on the number of students who can be enrolled in the graduate program in medical technology, all students (part-time and full-time) must enroll each semester to continue in the program.

Medical Technology (M. Tec.)

Professor Emeritus Love; Professor Moore; Associate Professors Gutman, Henderson, Holter, and Sharpe; Assistant Professor Reynolds; Instructor Blehschmidt.

1. *Orientation to Medical Technology*. I, II. 1 hr. Principles and practices of medical technology and the role of the medical technologist as a member of the health team.
2. *Orientation to Medical Technology*. II. 1 hr. Continuation of work of M. Tec. 1.
3. *Introduction to Medical Laboratory Technology*. I. 3 hr. Introduces the procedures used in the clinical laboratory and demonstrates their relationship to health and disease.
100. *Medical Technology*. I. 4 hr. Gross and microscopic structure of human body as it applies to the practice of medical laboratory technology.
101. *Medical Technology*. II. 4 hr. Continuation of M. Tec. 100.
200. *Orientation*. S. No credit. (For senior students.) Principles and practices of medical technology in relation to the hospital and clinics.
220. *Immunohematology and Blood Banking*. I, II. 2 hr. Lectures on immunohematology and blood banking theory and practice.
221. *Immunohematology and Blood Banking Laboratory*. Arranged. 5 hr. Clinical laboratory practice in blood banking procedures. Emphasis on procedures required for collection and preparation of blood and blood components for transfusion, special techniques, antibody studies, and problem solving.
230. *Clinical Chemistry*. I, II. 2 hr. Lectures on principles of clinical chemistry procedures; their clinical significance and implication in diagnosis.
231. *Clinical Chemistry Laboratory*. Arranged. 5 hr. Practice in the clinical chemistry laboratory.

240. *Clinical Hematology*. I, II. 2 hr. Lectures in hematologic theory and practice.
241. *Clinical Hematology Laboratory*. Arranged. 5 hr. Application of hematological principles to laboratory medicine. Emphasis on routine and specialized procedures, evaluation and problem solving.
250. *Clinical Microbiology*. I, II. 2 hr. Presentation and discussion of current methodology employed in the processing of clinical microbiology specimens, isolation and identification of pathogenic microorganisms, and determination of antimicrobial sensitivities.
251. *Clinical Microbiology Laboratory*. Arranged. 5 hr. Practice in the clinical microbiology laboratory to include isolation and identification of microorganisms; processing of specimens and antibiograms. Includes experiences in pathogenic mycology and parasitology.
260. *Instrumentation*. I, II. S. 2 hr. Principles of clinical laboratory instrumentation for medical technologists including principles of operation, maintenance, and troubleshooting.
265. *Laboratory Management*. I, II. 2 hr. Laboratory organization, economics, ethics, and records.
270. *Clinical Microscopy*. I, II, S. 2 hr. Lectures and laboratory practice in urinalysis, gastric analysis, pregnancy tests, and other procedures.
275. *Clinical Histopathology*. I, II, S. 2 hr. Lectures and laboratory practice in preparation of human tissues and organs for gross and microscopic examination.
280. *Clinical Immunology*. I, II, S. 2 hr. Lectures and laboratory practice in the principles of clinical immunology and their relationship to clinical laboratory technology.
290. *Scientific Research and Writing*. I, II. 1-4 hr. Conducting a scientific research project in medical technology and writing a scientific article for publication. Oral presentations are included.
300. *Seminar*. I, II, S. 1 hr. Seminars include topics in laboratory management and education in medical technology, and timely topics. Minimum of 3 semester hours to include all three topics is required of all graduate students in the medical technology program.
491. *Advanced Study*. I, II, S. 1-6 hr. Investigation in advanced subjects which are not covered in regularly scheduled courses. Study may be independent or through specially scheduled lectures.
497. *Research*. I, II, S. 1-15 hr. Student is required to pursue study on a problem in the student's area of concentration. This study is reported in a thesis-style manuscript. For this study and report, the student registers in M. Tec. 497. Total number of hours earned in M. Tec. 497 is determined by the student's adviser. As many as 9 semester hours may be taken during one semester or, by arrangement with the adviser, credit hours may be taken over several semesters. In the final compilation for degree requirements, only 6 semester hours in M. Tec. 497 will be counted toward fulfillment of the 36 required semester hours for the degree even though the student may have registered for as many as 15 hours in M. Tec. 497.

Division of Physical Therapy

The Division of Physical Therapy, under the auspices of the School of Medicine, offers the final two years of a baccalaureate program leading to a degree in physical therapy.

The first two years of study may be completed in the WVU College of Arts and Sciences, or any other accredited institution which offers courses comparable to the admission requirements of the Division of Physical Therapy. To be eligible for a degree a student must complete the final two years of the curriculum at WVU.

Admission to the third year is based upon 62 or more credit hours of study which satisfies the University Core Curriculum requirements and the prerequisites, or their equivalent, of the Division of Physical Therapy. *Registration in the first two years does not automatically assure the student a place in the junior class. A student will be accepted on a competitive basis and selection will be based on scholastic standing and on those personal characteristics which are desirable in physical therapists.*

The student must satisfactorily complete a period of clinical internship before the awarding of the baccalaureate degree. Expenses incurred during this time (room, board, and transportation) must be borne by the student. A Certificate of Proficiency in Physical Therapy then will be awarded which entitles the graduate to seek membership in the American Physical Therapy Association and to become eligible for state licensure for the practice of physical therapy. A physical therapist can practice professionally only after meeting examination and other licensure requirements in the state where employment is desired.

Admission to the Professional Program

A personal interview with the Admissions Committee is required. *Only those students who have at least a 2.6 grade-point average and a 2.75 science average (on a 4.0 scale) and who will have completed all the prerequisites (with a C or better) of the Division of Physical Therapy by the current spring semester will be interviewed.* In addition to satisfying the prerequisite and Core Curriculum requirements, the applicant to physical therapy must also have: (1) volunteer or work experience in physical therapy and (2) scores on the Allied Health Professions Admission Test (given at major universities) which must be submitted to the Division of Physical Therapy. The Admissions Committee will advise the applicant of the time and place for the interview. Individuals who do not meet the above requirements but who believe extenuating circumstances justify admission may petition the Admissions Committee for an interview. Reasons why the application should receive special consideration should be clearly stated in the petition.

Official enrollment forms are available at the Office of the Assistant to the Dean, Admissions and Records, WVU Medical Center, Morgantown, WV 26506, beginning December 1 of each year. Application forms should be returned no later than March 1 in the year admission is desired.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants who have attended West Virginia schools/colleges or have other state ties will be considered.

Academic Standards

Clinical Education Program

Students must satisfactorily complete the pre-internship clinical education program. During this time students will be expected to defray any and all costs of the program. The Clinical Internship Program is scheduled in the summer of the Senior Year. Before the student is allowed to leave for clinical internships the student must: (1) have completed *all* academic requirements of the program satisfactorily; (2) be of good health and have a full health insurance policy which will be in effect the entire internship period; (3) be prepared to defray the following types of costs: tuition, travel, room and board, and any incidental cost.

Promotions and Dismissals

1. Students admitted to the Physical Therapy Professional Program must register for all prescribed courses for each term.

2. To progress in the professional sequence, a grade of Pass, C or above must be earned in all required courses and in each segment of each course. Students who receive a final grade of D or F in any required course or segment of a course in the physical therapy curriculum will be dismissed from the program and will not be allowed to progress in the professional sequence.

3. A student who is unable to complete a course may, at the discretion of the course instructor, receive a grade of Incomplete (I). The grade of I must be changed to Pass, C or above before the beginning of the next term of the program. Students who have not completed all courses of a term satisfactorily will not be allowed to progress to the next term of the professional sequence and will be dismissed from the program.

4. A student who is performing unsatisfactorily in a course or segment of a course, at the discretion of the course instructor, be allowed to complete additional study or other assignments in order to demonstrate acceptable performance in that course or segment. Such additional study or assignments must be completed and the final course grade recorded before the beginning of the next term of the program.

5. It is the responsibility of the student to present to the course instructor a plan for removal of a grade of Incomplete and/or for demonstration of acceptable performance in a course or segment of a course. The instructor is not obligated to accept the plan proposed by the student.

6. Students must maintain a grade-point average of 2.5 in all required courses of the physical therapy professional program. A student whose grade-point average in the program falls below 2.5 will be dismissed. If the student has no grades of D or F, he/she may petition the Division Committee on Academic Standards to be placed on probation for the following term. If probation is granted, the program grade-point average must be raised to 2.5 or above by the end of the probationary term or the student will be dismissed from the program.

7. The Division of Physical Therapy reserves the right to suspend or dismiss any student who does not perform at an overall level considered satisfactory for patient care.

8. A student may appeal policies enforced by the Division of Physical Therapy through the WVU appeal process as outlined in the *WVU Student Handbook*. A student who has been dismissed from the program may apply to the Admissions Committee of the division for readmission.

Curriculum Plan

This curriculum is designed to satisfy the course requirements for admission to the professional portion of the curriculum in Physical Therapy offered by the School of Medicine. The Core Curriculum requirements must be satisfied, and a total of 62 hours is required for admission to the first professional year. This suggested curriculum plan allows latitude in career choice and is basically compatible with various curricula in the arts and sciences.

First Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Psych. 1**	3	Engl. 1	3
Chem. 15**	4	Chem. 16**	4
Biol. 1**	4	Biol. 2**	1
Electives*	6	Electives*	6
	<u>17</u>		<u>17</u>

Second Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Engl. 2	3	Psych. Elect.**	3
Psych. 141**	3	Phys. 2**	4
Stat. 101**	3	G.P.E. 2	1
Phys. 1**	3	Electives*	9
G.P.E. 1	1		
Electives*	3		
	<u>17</u>		<u>17</u>

Third Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Path. 128	2	Anat. 102	3
Anat. 101	4	Anat. 208	2
Physi. 241	4	Ph. Th. 110	3
Ph. Th. 111	5	Ph. Th. 112	3
Ph. Th. 117	1	Ph. Th. 114	2
		Ph. Th. 116	1
		Ph. Th. 118	3
	<u>16</u>		<u>17</u>

Fourth Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Ph. Th. 271	4	Ph. Th. 270	3
Ph. Th. 273	3	Ph. Th. 272	2
Ph. Th. 275	3	Ph. Th. 274	4
Ph. Th. 277	3	Ph. Th. 276	3
Ph. Th. 279	4	Ph. Th. 278	5
Ph. Th. 281	1	Ph. Th. 282	1
	<u>18</u>		<u>18</u>

Summer

	<i>Hr.</i>
Ph. Th. 290	3-6

*Electives: Students are required to satisfy University Core Curriculum requirements. In addition, these electives are suggested: Nutrn. 71; Biol. 166; Psych. 242, 243, 245, 281, 282; Spch. 11, 106, 221.

**Courses required for admission to the Division of Physical Therapy.

Courses of Instruction in Physical Therapy (Ph. Th.)

Professors Burkart (*Director*) and Petronis; Adjunct Professor Nelson; Associate Professors Barnes and Hart; Adjunct Associate Professor Weaver; Assistant Professor Harris; Instructor Kaplan.

(Courses included in the physical therapy curriculum, but not listed here, may be found in the Basic Sciences section of this catalog.)

110. *Functional Anatomy*. II. 3 hr. The musculoskeletal and neuromuscular systems including biomechanics, principles of movement, and analysis of muscle and joint action. Abnormal function due to physical disabilities and pathological disturbances. Students study normal human development and maturation through laboratory sessions involving evaluation and observation of children ranging in age from newborn to 5 years.
111. *Physical Therapy Principles and Physical Agents*. I. 4 hr. PR: Biol. 1, 2; Chem. 15, 16. Lecture-laboratory introduction to physical therapy and orientation to patients. Safety procedures, gait training, and nursing procedures related to physical therapy orientation to theory and application of hydrotherapy, thermotherapy, cryotherapy, actinotherapy, massage, and ultrasound are presented.
112. *Pulmonary Physical Therapy*. II. 3 hr. Correlation of anatomy, physiology, pathology, and treatment of pulmonary conditions. Laboratory in pulmonary evaluations and respiratory treatment procedures. Lectures and case presentations in medicine and surgery concerning chest and thoracic conditions.
114. *Medicine and Neurology*. II. 3 hr. PR: Ph. Th. 111. Lectures in medicine including dermatology, aging, neurology, pharmacology and vascular disorders.
116. *Clinical Education 1*. II. 1 hr. Students perform basic treatment procedures under the supervision of experienced therapists in various clinics. (*Graded Pass-Fail only.*)
117. *Seminar*. I. 1 hr. PR: Ph. Th. 111. Investigation of selected problems and issues.
118. *Basic Therapeutic Exercise*. II. 3 hr. This course includes the application of principles and techniques of traditional forms of anaerobic and aerobic exercises and goniometry. Isotonic, isometric, and isokinetic exercises are presented with an emphasis on the understanding of human cardiopulmonary functions under the stress of motor activity. Laboratory work in the application of basic exercises and pertinent cardiopulmonary stress tests is included.
270. *Organization and Management*. II. 4 hr. PR: Ph. Th. 275, 281. Basic principles and philosophy of management and the organization with emphasis on styles of leadership, group dynamics, theories of motivation, delegation of responsibility and authority, conflict management, verbal and nonverbal communications, decision analysis and fiscal management.
271. *Electrotherapy and Electromyography*. I. 4 hr. Orientation to theory and application of electrical currents. Laboratory experience in electrical diagnosis and treatment procedures. Basic principles and actual clinical experience with patients offered in electromyography, including nerve conduction and needle insertion studies. Use of electrical stimulation for pain control is also explored.
272. *Professional and Community Relationships*. II. 2 hr. Community health organization, including local, state, and national facets such as Medicare-Medicade and welfare. Planning based on chronic disease epidemiology. Role of physical therapist and other allied health personnel in providing comprehensive health care for chronically ill and geriatric population. Students become involved in care of the home-bound.
273. *Physical Evaluation*. I. 4 hr. PR: Ph. Th. 110, 118. Principles and techniques of performing evaluation testing procedures within the scope of the physical therapist, including manual muscle testing, neurological, ADL, and basic orthopedic evaluations.

274. *Orthopedic Physical Therapy*. II. 3 hr. PR: Ph. Th. 110, 118, 273. Selected lectures and cases in orthopedics. Emphasis on effects and treatment of disease and injury to musculoskeletal and neuromuscular systems. Laboratory practice in orthopedic assessment and procedures, including mobilization techniques.
275. *Professional Literature and Research*. I. 3 hr. Current literature method writing, statistics, and introduction to research methodology. A senior project is required.
276. *Elective Study*. II. 3 hr. Highly skilled techniques used in physical therapy are many and varied. It is beyond the scope of any baccalaureate program to offer such skill to every student in all areas. Therapists are beginning to specialize in certain areas. The student chooses a particular area and develops it to the student's fullest capabilities in the allotted time.
277. *Clinical Teaching*. I. 2 hr. Emphasis on the physical therapist fulfilling numerous teaching roles. Students develop skill and techniques in the facilitation of learning, objective writing, A-V utilization and development of evaluation tools for both clinical and didactic settings.
278. *Correlative Rehabilitation*. II. 5 hr. Lecture, case presentations, and laboratory practice concerning the pathology, evaluation, and treatment in the areas of spinal cord injuries, amputations, and burns. Underlying philosophy and principles of comprehensive care of the handicapped. Prosthetics, orthotics, bowel and bladder training, assistive and supportive devices, and wheelchair evaluations.
279. *Advanced Therapeutic Exercise*. I. 4 hr. Correlation of the basic principles acquired from study of gross anatomy, neuroanatomy, pathology, physiology, and functional anatomy with the scientific application of bodily movement. In-depth study of types and desired effects of exercise and methods and techniques primarily concerned with neuromuscular re-education. Laboratory practice consists of application of specific neurophysiological techniques to patients presented with various neuromuscular problems.
281. *Clinical Education 2*. I. 1 hr. Continuation of Ph. Th. 116. The student's participation in treatment programs is increased and enlarged to include basic testing and evaluation procedures. (*Graded Pass-Fail only.*)
282. *Clinical Education 3*. II. 1 hr. Supervised experience in more specialized procedures and testing techniques and patient program design. (*Graded Pass-Fail only.*)
290. *Clinical Education 4*. S. 1-12 hr. Three full-time summer affiliations of six to eight weeks each in a variety of extramural facilities, such as a general hospital, children's facilities, rehabilitation services, and public health. (*Graded Pass-Fail only.*)

School of Nursing

Philosophy

Nursing shares with other disciplines the overall purpose of the health care system in assisting clients to attain, regain, and retain optimal health. Specifically, the purpose of nursing is to assist clients wherever they are, in the performance of those activities contributing to optimal health (or a peaceful death) the clients would normally initiate and perform unaided if they had the necessary strength, knowledge, and motivation.

The practice of nursing embodies a holistic concept of man. This concept is derived from a synthesis of general education and nursing education. General education is that component of learning derived from the whole of knowledge and truth that is not specialized or particular to any field but which supports many fields. It provides the individual with basis for moral grounding, with a knowledge of man and the universe, a basis for understanding of self and others, as well as an appreciation of the past, an understanding of the present, and the process for predicting the future. These primary concepts form a foundation for subsequent learning in the applied discipline of nursing. Nursing education is that process by which the nurse continually synthesizes the conceptual base, while developing and applying one's intellectual, interpersonal, and technical skills in assisting individuals, families, and communities to meet their health needs. This process unifies practice, teaching, and research in the advancement of nursing.

The faculty believes that man is a physiological, psychological, social and spiritual being, capable of rational thought and action. Throughout the life span, one progresses through developmental stages and continually strives to meet basic human needs in a uniquely patterned way. Within the context of socio-cultural backgrounds, individuals perceive and respond to stimuli as integrated wholes. Individuals maintain basic human integrity through the process of dynamic continuous interaction with their internal and external environment.

Man is a member of innumerable systems within a total society which is organized to meet client recognized needs, with the family being the primary system for meeting health needs. Society organizes health care systems to assist the family in meeting the health needs of its members. Each person has the right of access to those resources which will assist in attaining and maintaining optimal states of health.

Health is a dynamic state which constantly fluctuates among varying degrees of wellness and illness. Health states embody physiological, psychological, social, and spiritual dimensions. The optimal state of health which can be attained and maintained is unknown but is influenced by genetic endowment, the environment in which individuals live, and their ability to cope with actual and potential stresses.

The faculty believes learning is a life-long process, enhanced by a climate of personal acceptance of the learner as an integrated being with internal motivation, attributes, dignity, and worth. Learning is a progressive and cumulative experience resulting in changed behavior which becomes useful in subsequent learning situations.

The teaching/learning process includes opportunities for teacher-student interaction in setting goals, selecting and evaluating learning experiences, and in appraising instructional methods and student progress. The process of education takes place in an atmosphere characterized by a democratic spirit

in which student and faculty can share learning experiences. This climate encourages the development of intellectual curiosity, systematic inquiry, the capacity for self-direction, and a sense of commitment to continued learning. Through this educative process, faculty and students continue to develop as informed persons responsible for contributing to the improvement of the profession and society through on-going creative efforts.

Undergraduate education in nursing prepares persons capable of beginning professional nursing practice and provides foundation for graduate education in nursing. Upon completion of the baccalaureate curriculum, the nurse can practice in a variety of settings and with clients of various developmental levels. The graduate uses process skills to maintain, restore, or improve health states of clients, and uses leadership theory to effect change. The baccalaureate graduate uses a conceptual base to evaluate and modify nursing role in relationship to client needs and expectations, and is prepared to support efforts in expanding nursing knowledge.

Graduate education in nursing prepares clinicians capable of leadership in developing and expanding nursing knowledge, skills, and practice competencies in light of societal needs. Preparation at the master's level provides the opportunity for the student to demonstrate self-direction and effective interactions with other health professionals in improving nursing practice and the health care delivery system. The master's graduate is able to provide quality health care in a variety of settings while clarifying and redefining nursing roles.

Programs Offered

The School of Nursing has on-campus or extension programs leading to the B.S.N. and M.S.N. degrees in Morgantown, Charleston, Parkersburg, Beckley, and Shepherdstown. Currently, the complete basic program leading to the Bachelor of Science degree in nursing is only available in Morgantown. A limited number of basic senior students may complete their senior year in Charleston. The program track for R.N.'s which leads to the B.S.N. degree is available at all sites. The graduate program leading to the M.S.N. degree is offered in Morgantown and Charleston.

The School of Nursing also offers the basic B.S.N. degree program in consortium with Glenville State College through a program offered on the Glenville and Charleston campuses. Further information on this program is available from Glenville State College or the School of Nursing.

Admission—Basic Program

To qualify for admission to the School of Nursing basic program a candidate must have completed one year of prescribed courses in an accredited college or university. Applicants are eligible for review by the Admissions Committee after completion of one full semester of course work in an accredited college or university. The prescribed courses include subjects such as: Chemistry, 8 hours; English Composition, 3 hours; Introductory Sociology, 3 hours; Introductory Psychology, 3 hours; Nutrition, 3 hours; Life-Span/Growth and Development, 3 hours; Core subjects, Biology, 4 hours; and/or electives.

A dominant factor in the number of students admitted is the limitation of space. Currently, the maximum number of basic students which can be accommodated is 72. *Since West Virginia University is a state university, and since the number of qualified applicants exceeds the number which can be*

accommodated, primary consideration is given to applicants from West Virginia. However, up to 10 percent of those admitted to each class may be from out of state.

Application forms for the School of Nursing are distributed by the Office of Admissions and Records at the Medical Center after December 1. Application for admission to the School of Nursing must be made by February 15 of the year the candidate wishes to be admitted. The application may be presented in person or mailed directly to the Assistant to the Dean of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. An application fee of \$10.00, payable to West Virginia University, must accompany the completed application. The deadline for receipt of transcripts and other required materials is February 15.

The applicant's academic record is the major factor in the decision on admission. The West Virginia resident must have a grade-point average of 2.5 or above, on a scale of 0.0 to 4.0 on all college work attempted, to qualify for consideration. Residents of other states must have an average of 3.2 or above on all college work attempted to be considered. West Virginia applicants whose grade-point average falls between 2.3 and 2.5 may petition in writing to the Admissions Committee for special consideration. Out-of-state residents with a grade-point average between 3.0 and 3.2 also may petition. Such a petition must be submitted along with the application and must clearly state why the applicant should receive special consideration.

The review of applicants takes approximately two months. The students are notified by mail after review of all applicants is completed. Two weeks after receipt of the letter of acceptance, the student must send a letter stating acceptance of the position to the Assistant to the Dean of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. A \$50.00 advance deposit must accompany the letter. This deposit is applied toward the registration fees for the first semester. The deposit is nonrefundable should the student decide not to enter after formally accepting a place in the class.

Admissions—Transfer Students to Basic Programs

A student with nursing credit from an accredited college or university is eligible for admission by presenting a record of courses comparable to those required in this curriculum and meeting other School of Nursing admission requirements. Application for transfer students should be initiated three months prior to the beginning of the semester in which they wish to begin nursing courses. Transcripts and other required materials must be received no later than two months before the start of the entering semester. Apply to: Assistant to the Dean of Admissions and Records, WVU Medical Center, Morgantown, WV 26506 specifying request for admission as a transfer student.

Program for Registered Nurse Students

The School of Nursing offers graduates of diploma and associate degree nursing programs the opportunity to complete requirements for the baccalaureate degree in nursing at the Morgantown campus, at the Charleston Division of the WVU Medical Center, and by extension at Shepherdstown, Parkersburg, and Beckley. General education credits earned in any accredited college or university may be applied toward the fulfillment of the degree requirements, if the course work is comparable. The continued offering of nursing courses at the various extension sites is dependent upon faculty resources and a minimum enrollment of 15 students in each nursing course.

Registered Nurse applicants are admitted directly to the School of Nursing. Acceptance and placement in the program is dependent upon the individual's academic record and upon the number of spaces available in the program. The license to practice nursing and a grade-point average of 2.5, or better, on all college work attempted, are required. Registered Nurses whose grade-point average falls below 2.5 may petition in writing to the Committee on Admissions for special consideration.

A minimum of 30 hours of general education courses that meet the WVU Core Curriculum and School of Nursing requirements should be completed before enrollment in the first nursing courses, Nursing 100, Basic Concepts in Professional Nursing and Nursing 101, Transitional Practicum. It is recommended that the 30 hours be selected from the suggested freshman and sophomore courses listed in the "Suggested Plan of Progression" under the section on curriculum. Special attention should be given to the physical, biological, and psycho-social sciences. Completion of additional general education courses beyond the 30 hours is recommended if the RN student wishes to carry a part-time course load. The second semester of chemistry may be waived if the applicant has successfully completed comparable laboratory science courses and meets other science requirements (Anatomy, Physiology, Microbiology, and Pharmacology).

All R.N. students are required to enroll in Basic Concepts of Professional Nursing (Nursing 100) and concurrently in Transitional Practicum (Nursing 101). The purpose of these courses is to facilitate transition into baccalaureate nursing. Special emphasis is placed on socialization into role and expectations of this role according to the School of Nursing's conceptual framework.

Graduates of associate degree programs establish lower-division nursing credit by the transfer of hours. Graduates of diploma establish sophomore-level credit in nursing by successful completion of a comprehensive lower-division challenge examination.

Upon successful completion of Nursing 100 and 101, and establishment of sophomore nursing credit, the R.N. student is eligible for the advanced placement experience (APE). This semester-long experience is a conceptual approach to the challenge of junior nursing courses. The experience results in an individualized diagnostic analysis of learning needs and completion of prescribed learning to meet these needs. The prescriptive component of the advanced placement, usually completed during the same semester as the APE, forms the basis for continued learning in senior courses. Difficulty with APE may require special work or enrollment in sophomore or junior course work. Generally, APE is followed by enrollment in senior nursing courses.

Senior nursing courses must be taken by enrollment. Successful completion of junior level advanced placement experience and general education requirements must be met prior to enrollment.

Requests for application forms for the Morgantown Campus and Parkersburg or Shepherdstown extension sites should be addressed to the Assistant to the Dean of Admissions and Records, WVU Medical Center, Morgantown, WV 26506.

Application forms for the Charleston Division or Beckley extension site may be obtained from the Student Affairs Coordinator, Charleston Division, WVU Medical Center, 3110 MacCorkle Ave., S.E., Charleston, WV 25304.

Further information about the program may be obtained from Chairperson, Sophomore Academic Unit, School of Nursing, WVU Medical Center, Morgantown, WV 26506; or Chairperson, Charleston Academic Unit, School of Nursing, Room 2017, WVU Medical Education Building, 3110 MacCorkle Ave., S.E., Charleston, WV 25304.

Academic Standards and Graduation Requirements— B.S.N. Students

The student must: (1) maintain a cumulative grade-point average of 2.0 or better in all work attempted; (2) pass all graded nursing courses with a grade of C or better; and (3) pass all required courses.

A student who fails to meet the requirements listed above must present to the adviser an acceptable plan for meeting the requirements. This plan must be within the policies and standards set by the Committee on Academic Standards.

The degree of Bachelor of Science in Nursing (B.S.N) is conferred upon completion of a minimum of 127 hours.

Fees, Expenses, Housing, Transportation

Students registering pay the fees shown in the WVU Medical Center fees charts, plus special fees and deposits as required. Fees are subject to change without notice.

Expenses of students attending WVU vary widely according to their course of study and their individual tastes.

Students are expected to provide their own equipment and instruments for the clinical courses.

Information concerning financial assistance and application forms may be obtained by visiting or writing the Financial Aid Office, Basic Sciences Building, WVU Medical Center, Morgantown, WV 26506. Telephone 304/293-3706.

The University Housing and Residence Life Office, G-18 Towers (phone 304/293-3621), provides information concerning University-owned housing. The Student Life Office in Moore Hall provides information concerning privately owned, off-campus housing, (phone 304/293-5611).

Some clinical experiences require the student to travel in a multi-county area. Each student is responsible for providing her/his own transportation.

Curriculum

The conceptual framework of the WVU School of Nursing is based on four concepts. These are man, health, environment, and process.

Man assumes many roles in life. In nursing these roles are specific yet interdependent. Man-role is conceived as either that of the man-nurse or the man-client. When man in the client role and man in the nurse role come together for the purpose of the nurse assisting the client to achieve *health*, the process becomes operational. Process is the means by which the goal is attained. The process between man-nurse and man-client takes place in and influences a certain *environment*. On the other hand, the environment influences process, man-nurse, man-client, and health in many ways.

Thus, the curriculum design for both undergraduate and graduate programs is derived from basic beliefs about the major concepts and from beliefs about learning and holism. In essence, a framework is initially provided to identify the core concepts and their relationships. This framework becomes the student's vehicle or mechanism through which added knowledge can be organized and syntheized, generating new ideas.

SUGGESTED PLAN OF PROGRESSION

FIRST YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Chem. 11	4	Chem. 12	4
Psych. 1	3	Engl. 1	3
Soc. & A. 1	3	Biol. 2	4
Nutr. 71	3	Psych. 141	3
Core A	3	Core A	3
	<hr/> 16		<hr/> 17

SECOND YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Nsg. 80	4	Nsg. 75	2
Nsg. 81	2	Nsg. 82	4
Anat. 101	4	Nsg. 83	2
M. Bio. 26	4	Physi. 141	4
Engl. 2	3	Pcol. 160	3
	<hr/> 17		<hr/> 15
Nsg. 100 (R.N.'s only)	4		
Nsg. 101 (R.N.'s only)	2		

SUMMER BETWEEN SECOND AND THIRD YEAR

	<i>Hr.</i>
Nsg. 180	3
Nsg. 181	3
(Basic Students only)	<hr/> 6

THIRD YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Nsg. 182	4	Nsg. 184	4
Nsg. 183	4	Nsg. 185	4
Nsg. 175 or Soc. & A. 211	2-3	Nsg. 175 or Soc. & A. 211	2-3
Core A/elective	3-6	Core A/elective	3-6
	<hr/> 13-17		<hr/> 13-17

(Advanced standing experience of all junior level
available for the RN's) 18 credit hours

FOURTH YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Nsg. 275	3	Nsg. 284	3
Nsg. 280	3	Nsg. 285	3
Nsg. 281	1	Nsg. 286	3
Nsg. 282	2	Core A/elective	3-6
Nsg. 283	2		
Core A/elective	3-6		
	<hr/> 14-17		<hr/> 12-15

Master of Science in Nursing (M.S.N.)

The School of Nursing offers a program of study leading to the Master of Science in Nursing (M.S.N.) degree to prepare the professional nurse for the role of nurse clinician in the advanced practice of nursing in primary health care. The program, which is administered by the Graduate Academic Unit, is

offered at the University main campus in Morgantown and through regional extension, presently serving Beckley, Charleston, Huntington, and surrounding areas.

Designed in an integrative fashion, this non-traditional graduate program offers a curriculum model which allows students to enroll on a part-time or full-time basis. Throughout the curriculum, students are guided in the processes of self-development aimed at pursuing excellence in scholarly and professional endeavors. The program allows flexibility within the basic curricular structure through the individualization of learning experiences, electives, thesis, and the opportunity to investigate an area of interest in advanced study.

The pattern of duration for the individual student study plan is determined in consultation with a faculty adviser and is based upon the student's background and goals. The program can be completed in four semesters of full-time study at the Morgantown campus, averaging a load of 9-12 credit hours per semester.

The program is accredited by the National League for Nursing.

Admission Requirements

The applicant must:

1. Meet the admission requirements of graduate education at West Virginia University.

2. Have completed a baccalaureate program in nursing which is accredited by the National League for Nursing (NLN). Applicants with a baccalaureate degree from nursing programs without NLN accreditation will be considered on an individual basis.

3. Have completed a course in introductory statistics (3 credit hours).

4. Provide the following:

a. Statement of philosophy of nursing and professional goals.

b. Letter of recommendation from each of the following: Head of undergraduate *nursing* program, employer, and a colleague.

c. Evidence of a current professional nursing licensure in at least one state.

Following receipt of required application materials, the applicant participates in a personal pre-admission interview with a graduate faculty member for the purpose of validating admission materials, clarifying admission criteria, projecting a study progression plan, and initial advising. Five parameters are used for review of applicants: (1) academic achievement; (2) residency/employment; (3) professional experience; (4) biographical goal; and (5) recommendations. WVU School of Nursing is an equal opportunity/affirmative action institution.

Once admitted, the student is assigned to a faculty adviser who guides the student in curriculum matters. Enrollment in nursing courses is based upon readiness, availability of space, and other essential resources.

The application process should be completed by January 1 for summer (May) enrollment; and March 1 and August 1 for fall and spring enrollment, respectively. Class sizes are limited, based on available faculty resources and space.

Application Process

Applicants need to complete the following steps in order to be considered for admission:

1. Complete two application forms as indicated and return to the appropriate offices to avoid unnecessary delay in the review process.

a. Application for admission to Graduate Studies—To be returned with a \$20.00 nonrefundable service fee to: Office of Admissions and Records, West Virginia University, P.O. Box 6009, Morgantown, WV 26506-6009.

b. Application for admission to the Master of Science in Nursing Program—To be returned to: Chairperson, Graduate Academic Unit, WVU School of Nursing, Morgantown, WV 26506.

2. Request an official transcript of records from each college or university attended. Transcripts and records should be sent directly to the WVU Office of Admissions and Records.

3. Send three recommendation letters directly to the Chairperson of the School of Nursing Graduate Academic Unit.

4. Participate in an interview with a faculty member teaching in the graduate program. The interview is for the purpose of verifying application materials, reviewing admission criteria, identifying deficiencies and transferable credits and, where possible, projecting a tentative plan of study. It is expected that the applicant will take an active role in the interview process to be informed about the basis for the admission criteria.

Degree Requirements

1. Completion of 42 semester credit hours. Minimum of 33 hours in nursing and 9 hours of non-nursing electives.

2. Completion of a Thesis (6 hours).

3. Achievement of an overall academic average of at least a B in all work attempted in the master's program. The grade C in two nursing courses will require a faculty review of the student's program progression.

4. Removal of all conditions, deficiencies, and incomplete grades.

Credit hours for courses in which the grade is lower than C will not count toward satisfying graduate degree requirements.

Students are expected to register for courses with letter grades (A, B, C), with the exception of electives which the student may opt to take with Satisfactory (S) or Unsatisfactory (U) grades, subject to the approval of the adviser.

M.S.N. Curriculum

<i>Nursing Theory, Practice, and Research (30-33 hours)</i>	<i>Hr.</i>
Nsg. 300—Advanced Nursing: Primary Health Care 1	3
Nsg. 301—Advanced Nursing: Primary Health Care 2	3
Nsg. 302—Advanced Nursing: Primary Health Care 3	3
Nsg. 310—Advanced Nursing Practice 1	3
Nsg. 311—Advanced Nursing Practice 2	3
Nsg. 312—Advanced Nursing Practice 3	3
Nsg. 370—Theories in Nursing	3
Nsg. 373—Research Process and Methods in Nursing	3
Nsg. 400—Advanced Nursing Practice 4	3
Nsg. 497—Research (Master's Thesis)	6
	33
<i>Electives (9 hours)</i>	
Cognates (Non-nursing)	9
Total	42

Sample Progression Plan (Full-Time Study)

Semester I	Hr.	Semester II	Hr.	Semester III	Hr.	Semester IV	Hr.
Nsg. 300	3	Nsg. 301	3	Nsg. 302	3	Nsg. 400	3
Nsg. 310	3	Nsg. 311	3	Nsg. 312	3	Nsg. 497	3
Nsg. 370	3	Nsg. 373	3	Nsg. 497	3	Elective	3
		Elective	3	Elective	3		
	9		12		12		9

TOTAL: 42 hours

Courses of Instruction in Nursing (Nsg.)

(For Nursing Majors Only)

75. *Issues of Nursing*. II. 2 hr. PR: Sophomore standing or consent. Overview of past, present, and future issues of the nursing profession. Emphasizes a historical review of the nursing literature.
80. *Concepts of Nursing 1*. I. 4 hr. PR: Sophomore standing or consent. Conc.: Nsg. 81. Introduces concepts, principles, and theories of nursing practice in relation to the health promotion with individuals and their families. Includes intellectual and interpersonal arts and psychomotor skills basic to nursing practice.
81. *Practicum 1*. I. 2 hr. PR: Sophomore standing or consent. Conc.: Nsg. 80. Selected experiences for the application of the basic concepts necessary for health promotion. Includes experience with individuals of all ages and their families. (Graded as Pass-Fail.)
82. *Concepts of Nursing 2*. II. 4 hr. PR: Nsg. 80, 81 or consent. Conc.: Nsg. 83. Concepts, principles, and theories of nursing practice with individuals experiencing minor deviations from wellness. Includes adapting mechanism necessary to regain health.
83. *Practicum 2*. II. 2 hr. PR: Nsg. 80, 81 or consent. Conc.: Nsg. 82. Selected experiences in which the nurse assists clients to cope with wellness and minor deviations from wellness. Includes experience with individuals of all ages and their families. (Graded as Pass-Fail.)
100. *Basic Concepts of Professional Nursing*. I. 4 hr. PR: West Virginia R.N. licensure or consent. Concepts and principles related to the professional nurse role. Focuses on the nurse role and role transition plus concepts in the School of Nursing curriculum.
101. *Transitional Practicum*. I. 2 hr. Conc.: Nsg. 100. Selected clinical experiences designed to help students identify strengths and remedy weaknesses in applying professional nursing concepts to client care. (Graded as Pass-Fail.)
175. *Issues of Nursing 2*. I, II. 2 hr. PR: Nsg. 75 or consent. Issues of nursing practice. Emphasizes related theories and research.
180. *Concepts of Nursing 3*. S. 3 hr. PR: Junior standing or consent. Conc.: Nsg. 181. Concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and moderate deviations from wellness. Builds on past intellectual and interpersonal arts and psychomotor skills.
181. *Practicum 3*. S. 3 hr. PR: Junior standing or consent. Conc.: Nsg. 180. Selected experiences for the application of concepts of nursing practice with individuals and families experiencing acute health care needs and moderate deviations from wellness. Includes experience with individuals of all ages. Emphasizes the practice of psychomotor skills. (Graded as Pass-Fail.)
182. *Concepts of Nursing 4*. I. 4 hr. PR: Nsg. 180, 181 or consent. Conc.: Nsg. 183. Concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and major deviations from wellness.

183. *Practicum 4. I. 4 hr. PR: Nsg. 180, 181 or consent. Conc.: Nsg. 182.* Selected experiences for the application of concepts of nursing practice with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages. (*Graded as Pass-Fail.*)
184. *Concepts of Nursing 5. II. 4 hr. PR: Nsg. 182, 183 or consent. Conc.: Nsg. 185.* Continuation of concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages.
185. *Practicum 5. II. 4 hr. PR: Nsg. 182, 183 or consent. Conc.: Nsg. 184.* Selected experiences for application of concepts of nursing practice with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages. Emphasizes nursing care problems of increased complexity. (*Graded as Pass-Fail.*)
275. *Issues of Nursing 3. I. 3 hr. PR: Senior standing or consent.* Analysis of professional nursing issues as they relate to a personal and professional philosophy of nursing.
280. *Concepts of Nursing 6. I. 3 hr. PR: Nsg. 180, 182, 184 or consent. Conc.: Nsg. 281.* Concepts, principles, and theories of professional nursing practice associated with individuals and/or families who are experiencing a critical, isolated health problem. Includes individuals of all ages. Introduces specialized psychomotor skills.
281. *Practicum 6. I. 1 hr. PR: Senior standing or consent. Conc.: Nsg. 280.* Selected experiences for the application of concepts of nursing practice with individuals and/or families experiencing a critical, isolated health problem. Includes experience with individuals of all ages. Emphasizes the practice of specialized psychomotor skills. (*Graded as Pass-Fail.*)
282. *Concepts of Nursing 7. I. 2 hr. PR: Senior standing or consent. Conc.: Nsg. 283.* Concepts, principles, and theories of professional nursing practice associated with individuals and/or families within the health care delivery system. Includes individuals of all ages.
283. *Practicum 7. I. 2 hr. PR: Senior standing or consent. Conc.: Nsg. 282.* Selected experiences in the application of concepts of nursing practice with individuals and/or families within the health care delivery system. Emphasizes a comprehensive study of a health concern in a defined population. (*Graded as Pass-Fail.*)
284. *Concepts of Nursing 8. II. 3 hr. PR: Nsg. 275, 280, 281, 282, 283 or consent. Conc.: Nsg. 285, 286.* Examines concepts influencing the professional nursing role within health-care delivery systems with emphasis on the synthesis of one's personal and professional philosophy of nursing.
285. *Practicum 8. II. 3 hr. Conc.: Nsg. 284.* Selected experiences in the practice of professional nursing in primary and secondary settings. Focus is on the incorporation of processes in the care of clients and the analysis of health care. (*Graded as Pass-Fail.*)
286. *Practicum 9. II. 3 hr. Conc.: Nsg. 284.* Selected experiences in the practice of professional nursing in acute or critical-care settings. Focus is on the incorporation of processes in the care of clients and the analysis of health care. (*Graded as Pass-Fail.*)
300. *Advanced Nursing: Primary Health Care 1. I, II, S. 3 hr. PR or Conc.: Nsg. 370.* Analysis and synthesis of concepts in nursing and related sciences relevant to the development of a conceptual framework for nursing in primary health care.
301. *Advanced Nursing: Primary Health Care 2. I, II, S. 3 hr. PR: Nsg. 310. PR or Conc.: Nsg. 373.* Development of a conceptual model for nursing with emphasis on developing strategies to promote client health.
302. *Advanced Nursing: Primary Health Care 3. I, II, S. 3 hr. PR: Nsg. 311.* Further development and/or refinement of a conceptual model for nursing with specific emphasis on planned change strategies and how these strategies impact health.

310. *Advanced Nursing Practice 1. I.* 3 hr. Conc.: Nsg. 300. Advanced nursing practice focusing on applicability of concepts in students' developing conceptual framework.
311. *Advanced Nursing Practice 2. II, S.* 3 hr. Conc.: Nsg. 301. Advanced nursing practice focusing on development and application of nursing strategies within the concept of the students' conceptual model.
312. *Advanced Nursing Practice 3. I, S.* 3 hr. Conc.: Nsg. 302. Advanced nursing practice focusing on application and testing of students' conceptual model, identification of a health problem area within the practice setting, and preparation of a planned change strategy.
370. *Theories in Nursing. I, S.* 3 hr. PR: Graduate standing; consent. Introduction to the structure and function of extant theories in nursing as a basis for developing a conceptual framework for nursing.
373. *Research Process and Methods in Nursing. II.* 3 hr. PR: Nsg. 310, 370. Study of the research process and methods for incorporation into students' conceptual model, practice and research in nursing.
400. *Advanced Nursing Practice 4. I, II.* 3 hr. PR: Nsg. 312. Collaborative practice focusing on the evaluation and modification of students' conceptual model for nursing and implementation of a planned change strategy.
491. *Advanced Study. I, II.* 1-3 hr. PR: Graduate standing; consent. In-depth study of topics related to current issues in primary health care. Study may be independent or through specially scheduled seminars.
497. *Research. I, II.* 6 hr. PR: Nsg. 373; PR or Conc.: Nsg. 312; consent. Refinement and implementation of research proposal to meet requirements for the master's thesis.

School of Pharmacy

Pharmacy was first offered at West Virginia University as a department in the School of Medicine, beginning in 1914. It was changed to the College of Pharmacy in 1936 and to the School of Pharmacy in 1958. In 1960, the School of Pharmacy changed from a four-year to a five-year program—including two years of pre-pharmacy.

The objective of the School of Pharmacy is to educate practitioners for current and future roles in the profession of pharmacy.

The pharmacy curriculum consists of three years of professional study preceded by a minimum of two years of study in an accredited college of arts and sciences.

The curriculum is designed to provide the student with the scientific and technical knowledge and communication skills required to practice the profession and to inculcate in the student a concept of the pharmacist's professional responsibilities as a health science practitioner and as a guardian of the public health.

Most pharmacy graduates enter practice in community or institutional pharmacies; however, many positions are also available in various government agencies, professional organizations, and industry. Pharmacists are eligible for commissions in the armed forces and the U.S. Public Health Service.

Graduates also may prepare for careers in teaching and research by entering graduate schools for specialization in pharmacy, pharmaceuticals, pharmacognosy, pharmaceutical chemistry, pharmacy administration, and pharmacology and toxicology. The pharmaceutical industry provides opportunities in a variety of capacities in promotion, distribution, production, and research.

Accreditation

The School of Pharmacy is accredited by the American Council on Pharmaceutical Education. The council is composed of members from American Pharmaceutical Association, National Association of Boards of Pharmacy, American Association of Colleges of Pharmacy, and American Council on Education.

The School of Pharmacy holds membership in the American Association of Colleges of Pharmacy whose objective is to promote the interests of pharmaceutical education. All institutional members must maintain certain requirements for entrance and graduation.

Legal Requirements and Reciprocity

To qualify for examination for licensure by the West Virginia Board of Pharmacy, the applicant must be a citizen, not less than 21 years of age, and of good moral character. Further, the applicant must be a graduate of an accredited school of pharmacy, and must meet the internship requirements set by the West Virginia Board of Pharmacy.

Interns must be registered with the West Virginia Board of Pharmacy and must be enrolled in or a graduate of an accredited school of pharmacy to gain experience acceptable for the internship requirement. Details may be obtained from the Office of the Dean.

School of Pharmacy graduates are eligible for examination to practice pharmacy in any state. Graduates who successfully pass the West Virginia

Board of Pharmacy examination are privileged to reciprocate, without further examination, with forty-seven other states, and with the District of Columbia and Puerto Rico, provided they meet the requirements of these states.

Admission

All students seeking enrollment in the School of Pharmacy must comply with regulations appearing in this and the *WVU Undergraduate Catalog*.

Students preparing for the study of pharmacy may satisfy the course work requirements for entrance into the School of Pharmacy by majoring in any arts and sciences subject and including in their course selections the following, or their equivalents:

English Composition	6 hr.	Chemistry, General	8 hr.
College Algebra*	3 hr.	Chemistry, Organic	8 hr.
Trigonometry*	3 hr.	Physics	8 hr.
Principles of Economics	6 hr.	Electives**	18 hr.
Biology, General	8 hr.		
TOTAL			68 hr.

*Pre-calculus or calculus (4 hr.) may be substituted for these two courses.

**Electives must be designed to satisfy University Core Curriculum requirements. Electives: Core Group A—12 hr.; Core Group B—6 hr.

University Core Curriculum Group A includes selected courses in: Art, English (exclusive of English 1 and 2), Foreign Languages, Humanities, Multidisciplinary Studies, Music, Philosophy, Religious Studies, Speech Communication, Theatre, and Women's Studies.

University Core Curriculum Group B includes selected courses in: Child Development and Family Studies, Education Foundations, Forestry, Geography, History, Mineral Resource Economics, Multidisciplinary Studies, Political Science, Psychology, Sociology and Anthropology, Technology Education, Women's Studies, and Economics (for Pharmacy students, Group B Economics would include Economics electives beyond the 6-hr. required courses).

Because limited openings are available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

Admissions are competitive and are based on cumulative academic average and science average achieved in all prior college courses, a personal interview, recommendations, and results of the Pharmacy College Admission Test (PCAT). The School of Pharmacy usually will not accept a D grade in a required course.

For admission to the School of Pharmacy, formal application should be made to the Committee on Admissions of the School of Pharmacy as early as possible after January 1, but by April 1, preceding the fall term (first semester) in which the student is seeking enrollment. Formal applications received after the April 1 deadline will be considered only when vacancies exist.

Applicants should write to Office of Admissions and Records, WVU Medical Center, Morgantown, WV 26506, which will furnish official blanks on which formal application must be made.

A \$10.00 application fee is required and must accompany the application.

Each applicant who is recommended for acceptance is expected to deposit \$50.00 before the applicant's name is entered upon the official list of those accepted by the School of Pharmacy. If the applicant enrolls, this sum is applied to the first-semester tuition. If the applicant fails to enroll, this deposit is forfeited.

It is required that during the first semester of the first year all students must complete certain prescribed immunization and diagnostic procedures.

Complete information may be obtained from the Dean of the School of Pharmacy, Morgantown, WV 26506; or from the Office of Admissions and Records, WVU Medical Center, Morgantown, WV 26506.

Pharmacy College Admission Test

Completion of the Pharmacy College Admission Test is a requirement for admission. It is strongly recommended that the student take this test in the fall before making application for admission. Information concerning time and place of the test can be obtained from a pre-pharmacy adviser, the School of Pharmacy, or by writing: Pharmacy College Admission Test, The Psychological Corporation, 7800 Old Oak Blvd., Cleveland, OH 44130.

Personal Interview

A personal interview with the Committee on Admissions will be required. Interviews will be held at the WVU Medical Center and will be arranged insofar as possible to suit the convenience of the applicant. Interviews are scheduled during February, March, and April. Only applicants with a cumulative and science average of 2.5 or above will be called for an interview, unless openings are available.

Admission to Advanced Standing

If space is available, students from other accredited schools of pharmacy may be admitted provided they meet the course requirements of the WVU School of Pharmacy, have a 2.5 grade-point average, and are eligible for readmission for the degree in pharmacy in the school previously attended. D grades in professional courses will not be transferred.

Student Status and Advancement

The determination of student status is in the hands of the Committee on Academic Standards of the School of Pharmacy. All committee actions are subject to approval of the Dean. In the School of Pharmacy, all grades except W, WU, P, and X are used to determine the cumulative grade-point average. The advancement of students in the School of Pharmacy is based on satisfactory academic performance, as well as the completion of course requirements.

To be in good standing, a student must maintain at least a 2.0 cumulative average in professional subjects. An F grade or failure to attain a 2.0 average in any semester will result in placing a student on probation. To be removed from probation, a student shall: (a) remove all academic deficiencies; (b) attain not less than a 2.0 cumulative grade-point average; and (c) demonstrate significant improvement in academic performance earning a C grade or better in all course work prescribed by the Committee on Academic Standards. Failure to be removed from probation in the subsequent semester may be deemed sufficient reason for suspension or the withdrawing of advancement. Furthermore, any student on probation at the end of the second professional year must petition the Committee on Academic Standards for advancement to the third professional year. Any student on probation at the beginning of the second semester second professional year, or who qualifies for probation at the end of that semester, shall not be eligible for summer clerkships.

Any first-professional-year student deficient 7 or more grade points shall fail promotion and shall repeat the year. Any second-professional-year student deficient 4 or more grade points shall fail promotion and shall repeat

the year. Any student deficient 12 or more grade points, or who fails promotion a second time, shall be suspended.

Students on probation are not eligible to hold office in student organizations or to participate in activities which make demands on time necessary to maintain satisfactory academic performance. Students are expected to be present for all of their classes and laboratories. Full-time students in the School of Pharmacy may not register for less than 14 hours nor more than 20 hours during any semester without the approval of the Committee on Academic Standards.

Special Requirements

All students satisfactorily completing the second professional year must obtain professional liability insurance before being allowed to begin the third professional year. Professional liability insurance will be continuously maintained in effect through completion of the third professional year. Failure to have the liability insurance will result in the student's not being allowed to enroll in required courses.

Students in the first professional year will be required to obtain an Intern Certificate from the West Virginia Board of Pharmacy, and to maintain it through completion of the third professional year.

During the second professional year, students will be informed of their assigned schedules for the third professional year's required clinical clerkships. Students will also be informed as to the West Virginia community or communities in which they will reside during these clerkships, the names of their preceptors, and the dates of attendance. The School of Pharmacy will provide the student opportunity to participate in choice of assignments, but it reserves ultimate responsibility in making such assignments. Each student will be expected to bear any financial burdens (i.e., living, moving, travel, etc.) incurred in satisfying clerkship requirements. A maximum of 24 students will be assigned to the clerkship session during any term (i.e., summer, fall, or spring). Only 8 students will be assigned to each required clerkship during any given four-week period. In the event of over-subscription to any clerkship period or clerkship rotation, priority will be assigned on the basis of grade-point average attained while a full-time student in the School of Pharmacy.

Requirements for Degree

The degree of Bachelor of Science in Pharmacy (B.S.Pharm.) is conferred upon any student who complies with the general regulations of WVU concerning degrees, satisfies all entrance and School of Pharmacy requirements, and completes the curriculum of the School of Pharmacy.

To be eligible for graduation, a student must have an average of C (2.0) for all work in the professional curriculum.

Course Changes

A student who desires to obtain credit for a course in place of any course prescribed in the student's curriculum must obtain permission for such change from the Dean.

Curriculum

SCHOOL OF PHARMACY CURRICULUM PLAN

First Professional Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Bioch. 139—Gen. Biochem.	4	M. Bio. 220—Microbiology	4
Anat. 101—Hum. Anat.	3	Phar. 202—Concepts. Phar. 2	4
Physi. 241—Mech. Body Funct.	4	Phar. 207—Intro. to Drug Lit.	1
Phar. 200—Prep. Phar. Pract.	3	Phar. 228—Phar. Pract. Leg. Env.	4
Phar. 201—Concepts Phar. 1	3	Phar. 241—Fund. Pathophys.	3
Phar. 227—Phar. Soc. Env.	2	Phar. 270—Fund. Med. Chem. 1	3
	<u>19</u>		<u>19</u>

Second Professional Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Pcol. 243—Pharmacology	4	Phar. 205—Phar. Pract.	4
Phar. 203—Concepts Pcut. 3	4	Phar. 230—Prof. Asp. Phar.	3
Phar. 229—Man, Asp. Phar. Pract.	3	Phar. 243—Chem. Immu. Agts.	3
Phar. 245—Pharmacotherapeutics 1	3	Phar. 246—Pharmacotherapeutics 2	3
Phar. 271—Fund. Med. Chem. 2	2	Phar. 260—Princ. Med.	2
Electives	<u>1-3</u>	Electives	<u>1-4</u>
	17-19		16-19

Third Professional Year

<i>First Session (Summer)</i>	<i>Hr.</i>	<i>Second Session (First Sem.)</i>	<i>Hr.</i>
Phar. 250—Amb. Care Clerkship	4	Phar. 250, 251, 252, and 253	
Phar. 251—Med. Team Clerkship	4	(See First Session)	16
Phar. 252—Inst. Care Clerkship	4	or	
Phar. 253—Elect. Clerkship	4	Electives	16
	<u>16</u>	or	
		Free Session	

or
Free Session

<i>Third Session (Second Sem.)</i>	<i>Hr.</i>
Phar. 250, 251, 252, and 253	16
or	
Electives	16
or	
Free Session	

Graduate Programs

Pharmaceutical Sciences

The School of Pharmacy offers graduate programs in the pharmaceutical sciences aimed at educating competent researchers and teachers. Programs for the degree of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) provide flexible, research-oriented curricula designed to develop the interests, capabilities, and potential of the individual student.

Admission

Applicants for admission must satisfy the general requirements for admission as graduate students. The applicant must possess a baccalaureate degree with a background in a suitable area of study, an overall grade-point average of at least 2.75, and the aptitude and interest for graduate work in the

pharmaceutical sciences in order to be admitted with regular student status. Applicants not meeting criteria for admission with regular student status will be considered for admission under alternate admission classifications as explained in Part 2 of the *WVU Graduate Catalog*. In addition, graduate record examination scores in the verbal, quantitative, and analytical portions of the examinations are required from all students, and TOEFL, or similar scores, are required of foreign students.

Academic Standards

No credits are acceptable toward a graduate degree with a grade lower than a C.

The graduate student must have a cumulative grade-point average of at least 3.0 in all graduate courses to qualify for the degrees.

Master of Science (M.S.)

The School of Pharmacy offers programs of graduate study leading to the degree of Master of Science (M.S.) in the pharmaceutical sciences. Students may specialize in pharmacy administration, pharmacology and toxicology, pharmacognosy, pharmaceutical chemistry, industrial pharmacy, medicinal chemistry, pharmaceuticals, biopharmaceuticals, and pharmacokinetics.

Requirements for M.S. Degree

To be eligible for the M.S. degree, the student must complete a minimum of 30 hours of graduate credit, of which no more than 6 hours may be for research and thesis.

Upon completion of the course work and research requirements, and after submission of the thesis, an oral examination will be administered by the appointed examination committee.

Doctor of Philosophy (Ph.D.)

The School of Pharmacy offers programs of study leading to the Doctor of Philosophy (Ph.D.) degree in the pharmaceutical sciences. Specialty areas of study include medicinal chemistry, pharmaceuticals, biopharmaceuticals/pharmacokinetics, and behavioral and administrative pharmacy.

Requirements for Ph.D. Degree

The student's first semester is usually occupied with course work while he or she is under the guidance of an assigned interim committee. During this time, each student will confer with several faculty members concerning the research project, and a major professor should be chosen by the end of the first semester of graduate study. The student's research committee should be chosen by the end of the first year of study (18-20 hours of graduate course work). The interest to pursue the M.S. en route to the Ph.D. degree should also be stated at this time. It is not necessary for all students to complete all requirements for the M.S. degree in order to qualify for admission into the Ph.D. program, although the student, with committee advice, may elect to complete the requirements for this degree in progress toward the Ph.D. Students bypassing the M.S. must meet all requirements for the M.S., except for preparing and defending a thesis.

A formal plan of study and research plan must be submitted by the student, the major professor, and the research committee.

Progress will continue with guidance from the research committee, and by the end of the second year the student should have completed the language/research tool requirements.

To be admitted for candidacy for the Ph.D. degree, the student must satisfy the above requirements and pass oral and written qualifying examinations.

After admission to candidacy, a substantial part of the program is devoted to an original research project which culminates in a dissertation. To be recommended for the Ph.D., the dissertation must be satisfactorily completed and defended at an oral examination.

Courses of Instruction in Pharmacy

Professors Baldwin, Brister, Covington, Howard, Jacknowitz, Lim, C. Malanga, Mauger, O'Connell, O'Donnell, and Rosenbluth; Professor Emeritus Wojcik; Associate Professors Hoy, Ma, Riley, Stratford, and Waters; Assistant Professors Abate, M. Davis, Elliott, Gwilt, Pau, Ponte, Schulz, and Stevenson; Clinical Associate Professor Lowe; Clinical Assistant Professors Bartsch, Gill, Hilligoss, Midcap, Ott, Parker, and Prettyman; Clinical Instructors Alderman, Anderson, Anido, Anile, Bailey, J. Bovenizer, N. Bovenizer, Caplan, Carter, Cole, Coleman, Corkrean, Crawford, Criss, R. Davis, DeBone, Deem, Defazio, Fruth, Gastineau, Gill, Griffith, Griffiths, Gryskevich, Hickman, Holmes, Jarvis, Johnston, Kelly, Knight, Lang, Law, Lindsay, Logan, Lusk, M. Malanga, Martin, K. Mauger, McClendon, McKeever, Menighan, Meredith, Miller, Muha, Nichols, Orlando, Ottmar, Pawlak, Phillips, Plummer, Plyburn, Reed, Rexrode, Ridgway, Ritchie, Scott, Scrivo, Shallis, Shaw, Slaven, Slevin, Stanley, Stout, Taylor, B. Thomas, J. Thomas, Tonkovich, Toompas, Van Meter, Viola, Weaver, Weekley, Winters, Yost, and Ziolkowski; Adjunct Associate Professor Glover; Adjunct Assistant Professors Cunningham, Harper, Richardson, and Swisher.

Pharmacy (Phar.)

200. *Preparation for Pharmacy Practice*. I. 3 hr. PR: First-year standing in pharmacy or consent. Pharmaceutical calculations, dosage forms, dispensing techniques, and an overview of pharmacy practice and career opportunities.
201. *Concepts in Pharmaceutics 1*. I. 3 hr. PR: First-year standing in pharmacy or consent. Concepts of a pharmaceutical system with emphasis on the physicochemical principles in formulations and dosage forms, primarily solutions and their calculations.
202. *Concepts in Pharmaceutics 2*. II. 4 hr. PR: Phar. 201 or consent. Special dosage forms, quality control, drug analysis, design and manufacture of pharmaceutical formulations and their conformity with Food and Drug Administration (FDA) regulations, especially good manufacturing practices.
203. *Concepts in Pharmaceutics 3*. I. 4 hr. PR: Phar. 202 or consent. Fundamentals of biopharmaceutics are presented. The kinetic, therapeutic, and dosage formulation-related aspects of drug absorption and disposition are discussed. Laboratories emphasize theoretical and practical problems in pharmacokinetics and bioavailability.
205. *Pharmacy Practice*. II. 4 hr. PR: Second-year standing in pharmacy or consent. Development of professional competence in the practice of pharmacy. Scientific principles underlying extemporaneous prescription compounding are applied to prescription problems. Problems arising in the dispensing of precompounded pharmaceuticals are studied.
207. *Introduction to Drug Literature*. II. 1 hr. PR: First-year pharmacy student or consent. To acquaint the student with the reference sources available to meet the drug information needs of pharmacists in the many different aspects of pharmacy practice, as well as those needed by other health practitioners.

211. *Sterile Products*. I, II. 3 hr. PR: Third-year standing in pharmacy. Broad view of the technology involved in sterilization and in the preparation and administration of sterile dosage forms. 2 hr. lec., 3 hr. lab.
212. *Non-Prescription Drugs*. I. 3 hr. PR: Second-year standing in pharmacy. Basis for self-medication, the therapeutic rationale for non-prescription drugs, and ethical principles as they apply to non-prescription drugs and appliances.
213. *Industrial Pharmacy*. I. 4 hr. PR: Phar. 202. Major aspects and principles of dosage form development and manufacture. Structure of industry and government influences. Laboratory experiences in manufacturing and development techniques.
214. *Cosmetic Formulation*. II. 3 hr. PR: Phar. 203. Introduction to principles and basic considerations of cosmetic formulations, including review of anatomy/physiology of skin. Laboratory exposes students to practical aspects of processing the most popular cosmetic products.
215. *Physical Pharmacy*. II. 3 hr. PR: First-year standing in pharmacy or consent. Designed to illustrate the special application of physiochemical properties of materials to pharmaceutical and physiological systems. Especially useful in delineating formulation considerations impinging upon the stability of complex systems.
216. *Hospital Pharmacy and Administration*. I. 3 hr. PR: Enrollment in the School of Pharmacy and consent. Basic concepts of the organization, management, and services of hospitals and pharmacist's role in the modern hospital. Emphasis on principles of hospital pharmacy administration and practice.
227. *The Pharmacist's Social Environment*. I. 2 hr. External factors which influence the practice of the pharmacist over which the pharmacist has little or no control, with emphasis on the psychosocial aspects and distributive systems.
228. *Pharmacy Practice and Legal Environment*. II. 4 hr. PR: Phar. 227 or consent. Continuation of Phar. 227 with emphasis on legal and health care delivery systems.
229. *Managerial Aspects of Pharmacy Practice*. I. 3 hr. PR: Phar. 227 and 228 or consent. Emphasis on decision making, planning, organization, personnel, information systems, risk factors, and financial aspects.
230. *Professional Aspects of Pharmacy Practice*. II. 3 hr. Emphasis on inventory control, pricing, communications, patient profiles and charges, and present and future role of pharmacist.
231. *The Pharmacist Proprietor*. I. 3 hr. PR: Senior standing in pharmacy. Pharmacist as a business owner; management theories and principles applied to the efficient operation of pharmacy.
232. *Social Aspects of Pharmacy*. II. 3 hr. Psychosocial aspects of pharmacists and patients in health care setting. Behavioral science factors which affect whether, why, or how medications and pharmaceutical services are used; role of pharmacist in health care.
233. *Current Developments in Pharmacy Practice*. II. 3 hr. PR: Third-professional-year standing, or second-professional-year by consent. Examines issues of current importance to contemporary pharmacy practice such as prepaid health insurance, peer standards review and organizations, degree and title granting, competency based relicensure and continuing education, and technicians' roles.
241. *Fundamentals of Pathophysiology*. II. 3 hr. PR: First-year standing in pharmacy or consent. Student is introduced to various disease states with emphasis on the pathophysiology underlying those diseases amenable to drug therapy.
243. *Chemotherapeutic and Immunobiologic Agents*. II. 3 hr. PR: Consent or second-year standing in pharmacy. Bacterial, viral, and parasitic infections; immunobiological methods of prevention, modification, and treatment; chemotherapeutic agents used in treatment; therapeutics and management.

245. *Pharmacotherapeutics 1*. I. 3 hr. PR: Second-year standing in pharmacy or consent. The application of pharmacodynamic, pharmacokinetic, and pharmaceutical principles in the treatment, diagnosis, and prevention of disease states.
246. *Pharmacotherapeutics 2*. II. 3 hr. PR: Phar. 245 or consent. A continuation of Phar. 245 in the application of pharmacodynamic, pharmacokinetic, and pharmaceutical principles in the treatment, diagnosis, and prevention of disease states.
249. *Drugs and Medicines*. I. 3 hr. (Not intended for pharmacy majors.) PR: General biology or consent. A course intended to introduce the nonhealth professional student to information about drugs and pharmaceutical preparations to include their source, administration, action, use and abuse.
250. *Ambulatory Care Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. A course giving extensive experience in the practice of pharmacy, emphasizing the pharmacist's relationship to ambulatory patients.
251. *Medical Team Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Students will participate on a health care team in an inpatient setting. Emphasis will be on pharmaceutical and drug advising, role of drug therapies in patient care, patient drug histories, and practitioner-patient communications.
252. *Institutional Care Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Extensive experience will be gained in the practice of pharmacy in institutional centers with emphasis on the pharmacist's relationship with institutional patients.
253. *Elective Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Students will elect to repeat a clerkship (Phar. 250, 251, 252). Emphasis will be on the further development of skills in the practice of pharmacy.
256. *Advanced Pharmacotherapeutics*. I. 3 hr. PR: Phar. 246 or equiv., and consent. The integration of pharmacological-therapeutic concepts in the study of treatment modalities and problems which may be encountered by the pharmacist in drug management of selected disease states.
260. *Principles of Medicine*. II. 2 hr. Those diseases about which the pharmacist should have sufficient knowledge for intelligent communication with the physician.
270. *Fundamentals of Medicinal Chemistry 1*. II. 3 hr. PR: First-year standing in pharmacy or consent. A relationship of the chemistry, structure, and physiochemical properties of drugs to their pharmacodynamic effects. Major portion devoted to basic principles followed by discussion in pharmacological classes.
271. *Fundamentals of Medicinal Chemistry 2*. I. 2 hr. PR: Phar. 270. Continuation of Phar. 270.
272. *Pharmacochemical Concepts of Drug Design*. II. 3 hr. PR: Phar. 271 or consent. Selected concepts of chemical approaches to the study of pharmacological and toxicological actions of drugs and their application to drug design.
276. *Pharmaceutical Quality Control*. I. 3 hr. PR: Second-year standing in pharmacy. Basic scientific principles in quality control of drugs and dosage forms, with particular attention to newer analytical techniques.
283. *History of Pharmacy*. I or II. 2 hr. Gives the student a deeper appreciation of the background of pharmacy and its development from ancient times to present. (Course will not be offered in 1985-86.)
284. *Public Health*. I or II. 2 hr. Measures required for the application of the pharmacist's knowledge, skill, and facilities to the promotion of the health and welfare of the public in cooperation with public and private health agencies. (Course will not be offered in 1985-86.)
285. *Radiopharmacy*. I. 3 hr. PR: Second-year standing in pharmacy or consent. Production and properties of radiation; detection of radiation; nuclear medicine instrumentation; the formulation, production, quality control, and use of radioactive materials and radiopharmaceuticals used in diagnosis and treatment.

287. *Seminar in Pharmaceutical Sciences*. I, II. 1-3 hr. PR: Consent. Presentation and discussion of special topics in pharmaceutical sciences.
289. *Pharmaceutical Investigations*. I, II, S 1-3 hr. PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacognosy, or pharmacy.
290. *Special Topics*. I, II. 1-4 hr.
298. *Clinical Pharmacy Specialties*. I, II, S. 3 hr. PR: Phar. 250, 251, 252, 253, and consent. Clinical pharmacy elective rotation on a selected medical specialty service. Rotations will be arranged upon approval by clinical pharmacy instructor and respective medical chiefs.
300. *Industrial Pharmacy*. I. 4 hr. Major aspects and principles of dosage form development and manufacture. Structure of industry and government influences. Laboratory experiences in manufacturing and development techniques.
301. *Advanced Biopharmaceutics*. I or II. 3 hr. Concepts of biopharmaceutics and pharmacokinetics in relation to the design and evaluation of dosage forms and determination of rational dosage regimens in health and disease.
314. *Cosmetic Formulation*. II. 3 hr. PR: Phar. 203. Introduction to principles and basic considerations of cosmetic formulations, including review of anatomy/physiology of skin. Laboratory exposes students to practical aspects of processing the most popular cosmetic products.
315. *Physical Pharmacy*. I or II. 3 hr. Designed to illustrate the special application of physiochemical properties of materials to pharmaceutical and physiological systems. Especially useful in delineating formulation considerations impinging upon the stability of complex systems.
370. *The Synthesis of Drugs*. I, II, S. 3 hr. PR: Chem. 332 and consent. A survey of the approaches employed in the synthesis of a variety of examples of pharmacologically useful agents. Emphasis is placed on retrosynthetic analysis of target molecules and the application of synthetic procedures to multi-step syntheses.
390. *Special Topics*. I, II, S. 1-4 hr.
391. *Seminar in Pharmaceutical Sciences*. I, II. 1 hr. PR: Consent. A multidisciplinary weekly presentation and discussion of special topics and research in the pharmaceutical sciences. (Weekly attendance is required and grading is on an S/U basis only.)
396. *Special Problems in Pharmaceutical Sciences*. I, II, S. 1-3 hr. Where special interest is shown by the student in an area other than of the student's thesis research, a faculty member will supervise individual study and research.
490. *Teaching Practicum*. I, II. 1-3 hr. PR: Graduate standing and consent. Supervised practices in college teaching of pharmacy.
491. *Advanced Study*. I, II, S. 1-6 hr. PR: Consent. Investigation in advanced subjects which are not covered in regularly scheduled courses. Study may be independent or through specially scheduled lectures.
494. *Special Seminars*. I, II, S. 1-6 hr. Special seminars arranged for advanced graduate students.
496. *Graduate Seminar*. I, II. 1 hr. PR: Consent. Formal presentation by graduate students to assembled graduate faculty and students of research or special topics approved by adviser. Title to be presented at start of semester. Required at least once annually. (Grading is S/U.)
497. *Research*. I, II. 1-15 hr.
498. *Thesis*. I, II, S. 2-4 hr. PR: Consent.

Pharmaceutical Chemistry (Ph. Ch.)

375. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Spectroscopic methods of analysis with emphasis on their applications in pharmaceutical problems and in biological sciences.
376. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Continuation of Ph. Ch. 375, with emphasis on electro-analytical methods and preparation of samples from pharmaceutical dosage forms and from biological materials.
377. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Physical-chemical principles involved in methods development. A special problem is assigned as an integral part of the course.

Pharmaceutics (Pceut.)

302. *Advanced Pharmaceutics*. I or II. 3 hr. Physiochemical and biopharmaceutical principles involved in disperse systems (liquid, semi-solid, and solid) which function as dosage forms. Considerations of properties of solid dispersions, micromeritics, diffusion of liquid dispersions, interfacial phenomena, emulsification, suspensions, prolonged action medication, etc.

Pharmacognosy (Pcog.)

340. *Organic Plant Constituents*. I or II. 3 hr. Occurrence, properties, biogenesis, etc., of a number of classes of organic compounds derived from plants. Emphasis on secondary metabolites which contain products of pharmaceutical or medicinal interest. (Course will not be offered in 1985-86.)
341. *Isolation of Plant Constituents*. I or II. 3-5 hr. Acquaints the student with techniques used in extraction, separation, and isolation of plant constituents. (Course will not be offered in 1985-86.)

Pharmacy Administration (Phar. Ad.)

320. *Drug Relation and Control*. I or II. 3 hr. Legislation affecting the development, introduction, control, and utilization of drugs in the American economy.
321. *Drug Distribution Systems*. I or II. 3 hr. Detailed study and analysis of drug distribution in institutional environments.
323. *Economics of the Pharmaceutical Industry*. I or II. 3 hr. History, background, and formation of major drug industries. Oligopolistic practices, mergers, combines, costs of research, and production.

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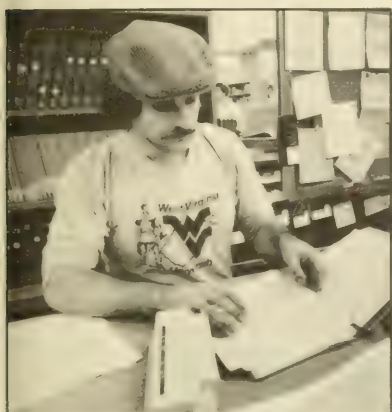
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Above, student studying in the Medical Center Library.



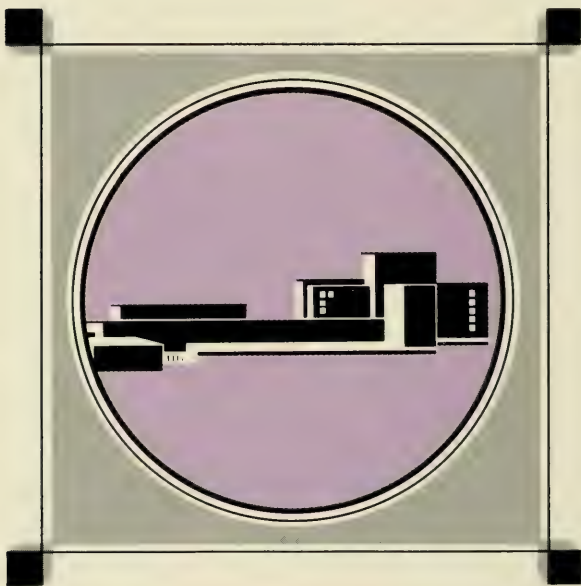
Above right, a Medical Center pylon: top section depicts Pierre Fauchard (1678-1761), credited with developing dentistry as a modern science through writings and practice; bottom depicts Louis Pasteur (1822-1895) inoculating a dog with a rabies virus—part of his experiment to develop a rabies vaccine.



University Hospital

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Office of Admissions and Records
Morgantown, WV 26506

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**West Virginia
University**

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MEDICAL CENTER CATALOG





Medical Center Station of WVU's Personal Rapid Transit (PRT) system which serves as a national transportation laboratory and provides service between the Medical Center and four other stations for students, faculty, and staff. In 10 years the PRT has carried more than 22 million passengers without an accident on computer-directed, electric-powered, driver-less cars that glide along 8.7 miles of guideways at up to 30 miles an hour.

COVER—Pylons at the entrance of the Basic Sciences Building were sculptured by Milton Horn. They create a visual history of the healing arts depicting important developments and personages in the history of medicine, dentistry, nursing, and pharmacy.



West Virginia University Medical Center

West Virginia University Medical Center 1986-87 Catalog

Medical Center Basic Sciences

School of Dentistry

Dental Hygiene

School of Medicine

Medical Technology

Physical Therapy

School of Nursing

School of Pharmacy

The 1986-87 West Virginia University Medical Center Catalog is a general source of information about course offerings, academic programs and requirements, expenses, rules, and policies. The courses, requirements, and regulations contained herein are subject to continuing review and change by the West Virginia Board of Regents, University administrators, and the faculties of the schools and colleges to best meet the goals and objectives of the University. The University, therefore, reserves the right to change, delete, supplement, or otherwise amend at any time the information, course offerings, requirements, rules, and policies contained herein without prior notice.

Edited by Stanley J. Nels
Associate University Editor

West Virginia University is an Equal Opportunity-Affirmative Action institution. In compliance with Federal Executive Order No. 11246 as amended, Title VII of the Civil Rights Act, West Virginia Human Rights Act Title IX (Educational Amendments of 1972), Sections 503 and 504 of the Rehabilitation Act of 1973, and other applicable laws and regulations, the University provides equal opportunity to all prospective and current members of the student body, faculty, and staff on the basis of individual qualifications and merit without regard to race, sex, religion, age, national origin, or handicap, as identified and defined by law.

The University neither affiliates with nor grants recognition to any individual, group, or organization having policies that discriminate on the basis of race, color, age, religion, sex, national origin, or handicap, as defined by applicable laws and regulations. —Office of the President

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UNIVERSITY CALENDAR, 1986-87

Summer Sessions, 1986

May 19, Monday	Registration, First Summer Session
May 19, Monday	First Classes
May 19, Monday	Malcolm X's Birthday—Day of Special Concern
May 26, Monday	Memorial Day Recess
June 30, Monday	Last Classes
June 30, Monday	Registration, Second Summer Session
July 1, Tuesday	First Classes
July 4, Friday	Independence Day Recess
August 8, Friday	Last Classes

First Semester, 1986-87

August 21, 22, Thursday and Friday	New Student Orientation
August 22, Friday	General Registration
August 25, Monday	First Classes
August 25, Monday	Late Registration Fee in Effect for All Students
August 29, Friday	Last Day to Register, Add New Courses, Make Section Changes, Change Pass/Fail and Audit
September 1, Monday	Labor Day Recess
October 4-5, Saturday and Sunday	Rosh Hashanah—Days of Special Concern
October 10, Friday	Mid-Semester
October 10, Friday	Mid-Semester Reports Due
October 13, Monday	Yom Kippur—Day of Special Concern
October 31, Friday	Last Day to Drop a Class
November 4, Tuesday	General Election Day Recess
November 22, Saturday, to November 30, Sunday, inclusive	Thanksgiving Recess
December 11, Thursday	Last Day to Withdraw From University
December 12, Friday	Last Classes
December 15, Monday, to December 20, Saturday, inclusive	Final Examinations
December 21, Sunday, to January 8, Thursday, inclusive	Christmas Recess

Second Semester, 1986-87

January 9, Friday	General Registration
January 12, Monday	First Classes
January 12, Monday	Late Registration Fee in Effect for All Students
January 15, Thursday	Martin Luther King, Jr. Birthday Recess
January 19, Monday	Last Day to Register, Add New Courses, Make Section Changes, Change Pass/Fail and Audit
February 7, Saturday (Not a Holiday)	West Virginia University Day
February 16, Monday	Presidents Day Recess
February 27, Friday	Mid-Semester
February 27, Friday	Mid-Semester Reports Due
March 7, Saturday, to March 15, Sunday, inclusive	Spring Recess
March 20, Friday	Last Day to Drop a Class
April 14, Tuesday	Faculty Assembly
April 17, Friday	Easter Recess
April 30, Thursday	Last Day to Withdraw From University
May 1, Friday	Last Classes
May 4, Monday, to May 9, Saturday, inclusive	Final Examinations
May 11, Monday	Grade Reports for All Graduates Due in Dean's Office
May 12, Tuesday	Dean's Reports for All Graduates Due in Office of Admissions and Records
May 16, Saturday	Alumni Day
May 17, Sunday	Commencement

The WVU academic year is divided into two semesters of about seventeen weeks each and summer sessions.

West Virginia University Medical Center

Medical Center services are growing and its plant is expanding as West Virginia's only university-based health center completes its third decade of service in 1986-87.

A revitalized cardiothoracic surgery service and kidney transplant program highlight the service growth, and the year 1987 will see completion of the center's new \$87 million teaching hospital. The 376-bed Ruby Memorial Hospital replaces WVU Hospital which admitted its first patients in August, 1960. Under authorizing legislation passed in 1984, a new, not-for-profit corporation was established as West Virginia University Hospitals, Inc., to own and operate teaching hospital facilities. It also has plans for a psychiatric hospital, a children's hospital, and an ambulatory care center. They will provide state-of-the-art care and teaching facilities for Medical Center patients and for students and resident physicians and dentists.

The current expansion program started barely a year after the opening of an addition to the Basic Sciences Building, which added 20,000 square feet to the center's main educational building. That \$2.7 million structure enhanced the Medical Center's capacity for education, research, and service with additional classrooms, laboratories, and offices for the health sciences program.

When the Basic Sciences Building was opened in 1957 only 113 students were enrolled. The number today, including graduate students, is more than 1,700 in dentistry, medicine, nursing, pharmacy, and related fields. Dentistry enrolls nearly 250, including 80 in dental hygiene; medicine some 340; nursing about 450; and pharmacy more than 180. Graduate programs in the basic sciences, dentistry, medical technology, nursing, and pharmacy enroll nearly 300 students, and 203 medical and dental residents are taking specialty training.

By the end of its thirtieth year of operation, the WVU Medical Center will have educated and trained an estimated 10,000 health professionals including more than 7,000 in medicine, dentistry, nursing, and pharmacy, and some 2,500 new doctors who received specialty training.

Prior to 1957 WVU offered compete programs only in medical technology and pharmacy. A two-year School of Medicine required students to transfer to out-of-state schools to finish their studies. No educational opportunities existed in dentistry or nursing at WVU. The Medical Center now produces graduates qualified to meet most of the health needs of West Virginia citizens. It also reinforces and updates its teaching with continuing education programs and serves as both a referral and information resources center for the state's physicians and other health professionals.

The Basic Sciences Building and University Hospital, which opened in 1960, join together as a single unit to make up the Medical Center. After the

Nonacademic policies and regulations affecting students are summarized in the *Student Handbook*. Students are urged to obtain a copy of the *Student Handbook* from the Division of Student Affairs, 205 Moore Hall.

new Ruby Memorial Hospital opens in 1987, as a related but independent institution, the present hospital building will be used for other University purposes, most of them not yet determined. WVU Hospitals, Inc., plans to lease some 50,000 square feet including its present administrative offices and the laundry facilities. Ruby Memorial is being built adjacent to and south of the present hospital.

(For additional information concerning WVU Hospitals, Inc., see pages 137-138 and 172-173.)

The Charleston Division of the Medical Center and the Wheeling Division of the WVU School of Medicine augment the Medical Center's outreach programs and expand the patient base. By extending the teaching scope of the University's programs, they influence health care and education in every part of the state.

Established in 1972 by an agreement between WVU and the Charleston Area Medical Center—the state's largest hospital complex—the Charleston Division serves students in dentistry, medicine, nursing, pharmacy, and allied health fields and offers postgraduate specialty training. The \$6 million Education Building opened in 1977 as a resource for clinical learning.

The Wheeling Division was started in 1974 in cooperation with the Ohio Valley Medical Center and Wheeling Hospital. A joint Wheeling Area Medical Education Committee oversees the program, which offers elective opportunities for medical students and postgraduate specialty training.

Dental Clinic

Clinical training and experience constitute a major part of the curriculum for dental and dental hygiene students. Facilities for dental and dental hygiene students include 160 treatment cubicles and all necessary related laboratories. Patients are accepted for treatment if their dental problems are of teaching value and if a student is available for assignment. The student is assigned to a patient and must work under close supervision of a faculty member. The clinic programs provide practical experience for the students and a much needed service to several thousand patients annually.

University Health Service

The University Health Service provides primary medical care for WVU students, faculty, and staff. Currently enrolled students who pay the Health Service fee and have a current ID card may use the service, which covers medical consultation and treatment at the Health Service on the Ground Floor of University Hospital. Patients requiring specialized care may be referred to the Outpatient Clinics at the Medical Center. The patient will be responsible for the fees thus incurred (registration charge, physician's fee office, x-ray, laboratory, etc.).

When the Health Service is closed, the Emergency Department is available for care. Costs incurred at the Emergency Department are the responsibility of the student. Informed and responsible use of this area is encouraged because most insurance policies cover such costs only if the visit was truly an emergency. A voluntary insurance plan is available to students to cover the cost of inpatient and outpatient services beyond primary care. Students are strongly advised to obtain such coverage. Details are available in a Health Service brochure.

Library

The Medical Center Library serves the students, faculty, and staff of the four Medical Center schools and the hospital. Its services are available to health professionals throughout West Virginia and, within certain guidelines, to the general public.

The library in the Basic Sciences Building contains more than 157,000 bound volumes. Some 2,200 domestic and foreign periodicals are currently received.

The Medical Center Library and other University libraries maintain an active interlibrary loan service. Material not in WVU libraries may be borrowed from libraries in other cities.

The library is open, except on holidays, from 8:00 a.m. to 11:45 p.m., Monday through Thursday; from 8:00 a.m. to 11:00 p.m., Friday; from 9:00 a.m. to 6:00 p.m., Saturday; and from 1:00 p.m. to 11:00 p.m., Sunday. Changes in scheduled hours are posted in advance.

Undergraduate Admissions

Admission to West Virginia University is governed by policies established by the WVU Faculty Senate, the University administration, and the West Virginia Board of Regents. Specific applications of these policies may vary from year to year from program to program. All University admissions are governed by the following general policies:

1. The primary responsibility of the University is to the residents of West Virginia. Consequently, preference will be given to West Virginia residents in various admission processes.

2. Within the space available in a particular program, admissions will be offered preferentially to those whose performance record indicates the highest probability of success in the chosen program.

3. Where space is not available in a particular program, minimum program or college or school admission requirements have not been met or when students have not yet decided on a major, admission in the General Studies category may be offered (see page 23 for description).

4. Recognizing the need to accommodate certain students who would not otherwise qualify for admission, WVU may permit up to 5 percent of the admissions class based on the previous year's class to be admitted under an individual admission category. Students who have exhibited exceptional aptitude or talent, e.g., art, music, writing, dramatics, or athletics as well as the educationally disadvantaged will be considered.

Admission of Freshman Students

West Virginia high school students may obtain applications for admission from their high schools or by contacting the Office of Admissions and Records (Box 6009, Morgantown, WV 26506-6009; telephone 304/293-2121). Out-of-state students may write the WVU Office of Admissions and Records and request an application form. Applicants must complete their part of the application and then return it to their school. The school should send the completed application, an official transcript of the student's high school grades, and the course list for the senior year (if applicable) directly to the WVU Office of Admissions and Records. All applications must include an official transcript from an accredited high school.

All students are required to take either the American College Testing Program (ACT) tests or the Scholastic Aptitude Test (SAT) and have the report of scores sent to WVU prior to the admission decision. Students admitted on the basis of SAT scores must submit results of the ACT by the end of the first semester of their freshman year.

General Credit Requirements

To be considered for admission to WVU, an applicant is required to present the following high school credits:

English—4 units.

Biology—1 unit.

Social Studies—3 units.

Mathematics—2 units of college preparatory mathematics, 1 of which must be algebra (all students), (2 units of algebra and 1 unit of geometry for students wishing to enter any program requiring a specific mathematics course for graduation).

Electives—8 additional units chosen from the areas of fine arts, science, mathematics, computer science, foreign languages, and communication. No later than the Fall of 1990, 1 more unit of a laboratory science will also be required.

Students wishing to enhance their chances for academic success at WVU should choose these elective units so as to provide additional preparation for the chosen field of study.

Grade-Point Average (GPA); Test Score Requirements; GED Diplomas

For freshman admission, performance is measured by high school grade-point average and ACT or SAT test results.

High school seniors who rank in the upper 5 percent of their graduating class, have an ACT composite score of at least 28 (or SAT equivalent), or are National Merit Semifinalists will be admitted without regard to residence.

The following are *minimum* requirements. Selected programs may require a substantially higher grade-point average and/or test results.

West Virginia Residents

West Virginia residents who satisfy the General Credit Requirements (above) and have at least a 2.0 high school grade-point average and a composite American College Testing (ACT) program score of at least 16 (or SAT score of 740) *will be admitted*. West Virginia residents who satisfy the General Credit Requirements and have *either* a 2.0 high school grade-point average or composite ACT score of at least 16 (or 740 combined SAT) *will be considered* on an individual basis by the Admission Review Committee.

Nonresidents

Nonresidents who satisfy the General Credit Requirements (above) and have at least a 2.25 high school grade-point average and a composite ACT score of at least 18 (SAT total score of 800) *will be admitted*. Nonresidents who satisfy the General Credit Requirements and have a 2.25 high school grade-point average or a composite ACT of at least 18 (or 800 SAT) *will be considered* on an individual basis by the Admission Review Committee.

GED Diplomas

GED diplomas are acceptable for admission consideration. Students who have received a GED diploma less than five years prior to seeking admission to WVU will have to meet ACT and course requirements for admission.

Admission to Medical Center Programs

Applicants for admission to any of the schools of the WVU Medical Center should write to the Assistant Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506, requesting the appropriate application forms. (The WVU Medical Center Catalog has complete information for all Medical Center programs and is available at the Office of Admissions and Records.)

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

When requesting an application by letter for any of the Medical Center programs, the permanent home address must be given.

Dentistry and Medicine applications fees are \$30.00. All other WVU medical science programs are \$10.00 and must accompany the applications.

Any applicant who is refused admission, or who fails to enroll after acceptance, must re-apply in the regular manner if consideration for a subsequent year is desired.

Those applicants accepted for admission to any of the programs of the WVU Medical Center, except the Division of Dental Hygiene and out-of-state applicants to the School of Dentistry, are required to deposit \$50.00 before acceptance becomes official. Applicants accepted to the Division of Dental Hygiene deposit \$40.00, and out-of-state applicants accepted to the School of Dentistry deposit \$100. If the applicant enrolls in the program of the applicant's choice, the deposit is applied to the first-semester tuition.

If an application for admission to the School of Medicine is withdrawn after the applicant has been offered a place and has submitted a deposit, such deposit may be refunded any time before March 30 of the year in which enrollment is anticipated, but will not be refunded after this date. Deposits submitted to all other programs are nonrefundable.

It is required that during the first semester of the first year all WVU Medical Center students must complete certain prescribed immunization and diagnostic procedures.

Admission of Transfer Students

Admission as a transfer student is available to those students who present evidence of 12 transferable credit hours or more from an accredited post-secondary institution. Applicants with fewer than 12 transferable hours of credit must apply for freshman admission. All applicants with fewer than 29 transferable credit hours are ranked as freshmen and must submit ACT scores and high school transcripts as part of their applications.

Students wishing to transfer with more than 58 hours of transferable credit should be admissible to a specific degree-granting program within the University before formal admission is granted. Individual consideration will

be given to a limited number of students with more than 58 transferable hours who do not meet specific major requirements.

Acceptance of students with 58 or fewer transfer credit hours into some areas, e.g., engineering, pre-business and economics, and pre-computer science, will be determined by the number of available positions as well as the academic credentials of the student.

To be eligible to enroll as a transfer student at WVU, any student—regardless of residence—must present a minimum grade-point average of 2.0 in all college work attempted. *Some individual programs, however, have higher grade-point average requirements.*

Applicants for transfer from another college or university must submit to the Office of Admissions and Records a complete application for undergraduate admission and an official transcript of all college work attempted to date at least two months prior to the semester for which the applicant requests admission. An official transcript covering subjects subsequently taken must be sent before final admission is granted.

A complete application must include Catalog pages from the institution attended describing all subjects which have been or will have been completed. The applicant's name should be written on each page and each subject must be indicated by a check mark in the margin. Complete catalogs should not be sent. *(Catalog pages describing courses taken at West Virginia Board of Regents institutions need not be submitted.)*

Credits and grades for all baccalaureate-level courses at any baccalaureate degree-granting institution in the West Virginia state system of higher education may be transferable toward a bachelor's degree, if appropriate to that degree. No more than 72 hours of credits and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia state system shall be transferable toward a bachelor's degree.

Credits (though not grades) are transferable from institutions outside the West Virginia state system for courses carrying a grade of C or higher, if appropriate to the degree.

Credits from two-year community colleges and junior colleges outside the West Virginia state system are limited to 72 hours of lower-division courses. These colleges must be accredited by the North Central Association of Colleges and Schools or other regional accrediting associations.

The transfer of credits does not exempt the student from satisfying all the requirements for the student's degree program at WVU.

Evaluation of transcripts for transfer of credit is furnished only after receipt of complete official transcripts, provisional admission to WVU, and payment of a \$40.00 advanced tuition deposit. Therefore, a complete application and all transcripts must be in the Office of Admissions and Records two months in advance of registration.

Intrauniversity Transfers

Students transferring from Potomac State College of WVU shall be considered intrauniversity transfers. Students will be eligible to transfer as long as they can be considered students in good standing at WVU. All records made at Potomac State College are part of the student's WVU record, but no more than 72 hours of credits may be applied toward the baccalaureate degree. Students desiring to enter a specific degree-granting program will have to meet all of the program's requirements.

Admission of Post-Baccalaureate Students

Students possessing one or more earned degrees from an approved college or university and desiring to enroll for undergraduate credit may be admitted as post-baccalaureate students. Students admitted in this category would not be working toward a graduate degree and credit earned while under this classification would be limited to undergraduate credit. Students admitted as post-baccalaureate, since they are limited to undergraduate credit, would be assessed undergraduate fees. Candidates for admission to this classification who are not graduates of WVU must submit an official transcript from the institution granting their latest degree.

Second Bachelor's Degree

Persons desiring to obtain a second bachelor's degree must submit an undergraduate application. In general, admission will be granted on the basis of a cumulative grade-point average of 2.0 or better in their first bachelor's degree. Selected majors have higher requirements.

Admission of Special Students

Persons not desiring to become candidates for a degree may, by special permission, be admitted as special students. They are subject in all respects to the usual rules relating to admission, registration, and scholarship. Enrollment in any class is subject to the approval of the instructor in charge.

Transient Students

Students from other institutions who desire to take individual courses at WVU for transfer to their home institutions need only submit a statement of good standing from the home institution with the application form.

High School Specials

High school seniors desiring to take specific courses at WVU require permission from the high school and parents and a minimum 3.0 grade-point average. Registration is limited to 6 credit hours per semester.

Admission of International Students

West Virginia University is authorized under Federal law to enroll nonimmigrant alien students.

International students wishing to enroll in WVU must comply with the academic requirements stated above in addition to other academic and nonacademic requirements as follows.

Early Inquiry and Application—International applicants should forward a letter of inquiry one year before they intend to begin study in the United States. The University receives a large number of applications from international students. For this reason and because of the time required for the student to make visa and financial arrangements, April 1 has been established as a deadline after which applications cannot be processed.

International students should make all arrangements for their financial obligations to WVU and for their entire stay in the United States before leaving their country.

Health Sciences Programs At West Virginia University

Degree Program	Bachelor	Master	Doctorate
School of Dentistry			
Dental Hygiene	B.S.		
Dentistry			D.D.S.
Endodontics		M.S.	
Orthodontics		M.S.	
School of Medicine			
Anatomy		M.S.	Ph.D.
Biochemistry (Medical)		M.S.	Ph.D.
Medical Technology	B.S.	M.S.	
Medicine			M.D.
Microbiology (Medical)		M.S.	Ph.D.
Pharmacology and Toxicology		M.S.	Ph.D.
Physical Therapy	B.S.		
Physiology (Medical)		M.S.	Ph.D.
Biomedical Sciences			Ph.D.*
School of Nursing			
Nursing	B.S.N.	M.S.N.	
School of Pharmacy			
Pharmaceutical Sciences		M.S.	Ph.D.
Pharmacy	B.S.Pharm.		
University Hospital			
Medical Graduate Residencies			
Radiologic Technology	Certificate		

*Awarded under the auspices of the degree-granting authority of West Virginia University, but in cooperation with the Basic Sciences Departments of the Marshall University School of Medicine. (For details, see the WVU Graduate Catalog or the Marshall University Graduate Catalog.)

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

English Proficiency—All international applicants whose native language is not English must submit Test of English As a Foreign Language (TOEFL) scores. A minimum of 550 is required for admission. TOEFL information and registration forms are available from the Educational Testing Service, Princeton, NJ 08540 USA. Tests are normally given six times each year. It requires one month to score and report individual test results. Registration for the TOEFL examination closes five weeks before the testing date.

NOTE: In certain programs, provisional admission is possible for students with scores lower than 550 on the TOEFL. In such cases, students are admitted provisionally on the basis of their academic record, contingent upon submission of satisfactory TOEFL scores or satisfactory completion of the

WVU Intensive English Program. For information about the Intensive English Program, contact the WVU Department of Foreign Languages, Chitwood Hall, Morgantown, WV 26506.

Credentials—Complete and original official records of all studies undertaken by an applicant at any institution attended (secondary school, college, university, technical school, professional school, etc.) must be provided at time of application for admission to WVU. Copies of original records are acceptable, provided they are officially stamped.

Such records should include: (1) complete dates of attendance; (2) identification of individual subjects; (3) total number of hours in each class per week; (4) total number of weeks each class meets in session; (5) final grade in each subject, for each year; (6) actual credits earned for each subject; (7) class, division, or rank achieved; (8) identification of the individual; (9) explanation of each institution's grading system; and (10) certification, and date, of degree or awards achieved. If any of this information cannot be supplied, an official explanatory statement from the school should be submitted. *(All documents must be accompanied by certified English translations.)*

All documents should be forwarded directly from the registrar or other authorized official of the school to the WVU Office of Admissions and Records, P.O. Box 6009, Morgantown, WV 26506-6009 USA.

If an applicant is currently enrolled in a school, tentative admission may be granted on the basis of an incomplete record which indicates the applicant will unquestionably meet the admission standards of WVU. Final admission, however, cannot be approved until the complete record has been received and evaluated.

International Students Transferring Within the United States—International students applying to transfer from schools within the United States will not be permitted to register at WVU unless they have complied with all transfer procedures as required by the United States Immigration and Naturalization Service (INS). Upon arrival on the campus the student must be prepared to present the I-20 ID to the International Student Adviser for signature.

No student should move to Morgantown without having received an assurance of admission from WVU.

Admission of Veterans

Veterans may be admitted to WVU with less than the minimum admission requirements necessary for other, nonveteran applicants.

Information regarding educational opportunities made possible at the University through provisions of the Veterans Readjustment Benefits Act of 1966—G.I. Bill (Public Law 358), the Vocational Rehabilitation Program of the Veterans Administration (Public Law 16), and the War Orphan's Educational Assistance Act of 1956 (Public Law 634) may be obtained from a financial aid counselor by personal conference at the Student Financial Aid Office in Mountainlair, or by mail (P.O. Box 6004, Morgantown, WV 26506-6004). An amendment to Public Law 634, enacted in 1964, provides benefits to many dependents of 100 percent disabled veterans.

Veterans having at least one continuous year of active military service may receive advanced placement credit for General Physical Education 1 and 2. Proof of such military service must be presented to the Director of Admissions and Records.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

Readmission

Undergraduate students who leave the University for at least one complete semester are required to submit an application for readmission to the Office of Admissions and Records. Decisions on readmission will be based on the student's WVU record together with that of any other institution the student might have attended after leaving WVU. Students remaining in good standing on a combination of those records are eligible for readmission.

Students who have been suspended from the University must have written approval from the dean of the school or college to which they desire to be admitted before an application for readmission is submitted.

Some students are unsuccessful in their initial higher education experience resulting in very poor grades and/or academic suspension. If such a student has not been enrolled at a West Virginia Board of Regents institution for at least five calendar years and has not been enrolled in any other academic institution of higher learning during those five years, then the student may be eligible for readmission to WVU under the Academic Forgiveness Policy (see page 34).

Students wishing to change their major upon readmission must have permission from their previous dean and the dean of the school or college to which they desire to be admitted.

Fees and Expenses

Fee Regulations

All West Virginia University fees are subject to change without notice.

All fees are due and payable to the Controller on the days of registration. Students must pay fees before registration is accepted. Completion of arrangements with the Controller's Office for payment from officially accepted scholarships, loan funds, grants, or contracts shall be considered sufficient for acceptance of registration. Fees paid after regular registration must be paid to the University Cashier in Mountainlair.

All students are expected to register on days set apart for registration at the beginning of each semester or summer session of the University.

No student will be permitted to register at the University after the eighth day of a semester or the fourth calendar day of the summer sessions or a single summer session. Days are counted from the first day of registration.

Any student failing to complete registration on regular registration days is subject to the Late Registration Fee of \$20.00.

Students registering pay the fees shown in the fees charts, plus special fees and deposits as required.

No degree will be conferred upon any candidate and no transcripts will be issued to any student before payment is made of all tuition, fees, and other indebtedness to any unit of the University.

Financial Aid

Students interested in financial assistance must file a Financial Aid Form (FAF) with College Scholarship Service, Box 2700, Princeton, NJ 08540. Forms are available at high schools or from the College Scholarship Service or the WVU Financial Aid Office. Submit only forms dated for the current academic year.

Your Guide to Financial Aid—West Virginia University is available at the WVU Financial Aid Offices, Mountainlair, Downtown Campus, and 104 Basic Sciences Building, Medical Center. The guide describes available financial aid, application procedures, and estimated educational expenses for attending WVU.

Classification of Students (Full-Time and Part-Time)

A *full-time graduate student* is one who is registered for 9 or more semester hours of work each semester of the regular academic year, or 6 or more semester hours of work altogether during the summer.

A *full-time undergraduate student* is one who is registered for 12 or more semester hours of work each semester of the regular academic year, or 6 or more semester hours of work during a 6-week summer session.

For fee assessment purposes, a *part-time graduate student* is one who is registered for fewer than 9 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

A *part-time undergraduate student* is one who is registered for fewer than 12 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

It should be recognized that unique curriculum requirements in several of the Medical Center programs may require student involvement in summer clinical clerkships prior to official enrollment for the following semester's work.

Fees for Off-Campus Courses

Fees for credit hours for off-campus students are the same as those charged students enrolled in on-campus courses. Off-campus students do not pay the Daily Athenaeum Fee, the Radio Station Fee, or the Mountainlair Construction Fee. However, all students must pay a \$40.00 course fee for each off-campus course taken.

Laboratory Fees

Consult specific departmental sections of this *Catalog* concerning nonrefundable deposits and microscope rental fee.

Service Charge on Returned Checks

A service charge of \$10.00 shall be collected on each check returned unpaid by the bank upon which it is drawn.

If the check returned by the bank was in payment of University and registration fees, the Controller's Office shall declare the fees unpaid and registration cancelled if the check has not been redeemed within three days from date of written notice. In such a case the student may be reinstated upon redemption of the check, payment of the \$10.00 service charge, the Reinstatement Fee of \$10.00, and the Late Registration Fee of \$20.00.

Non-Sufficient Funds Check Policy

Payments of tuition, fees, and other charges by check are subject to WVU's Non-Sufficient Funds Check Policy. A copy of this policy is available in the Bursar's Office.

Summer Tuition and Fees

Tuition, per semester hour	Resident	Nonresident
Undergraduate students	\$31.00	\$114.00
Graduate students	45.00	164.00
Dentistry and Medicine students	93.00	244.00
Daily Athenaeum Fee*	1.00	1.00
Radio Station Fee*	1.00	1.00
Health, Counseling, and Program Services Fee	21.00	21.00
Mountainlair Construction Fee, per 6-week summer session or any portion thereof*	15.00	15.00
Student Affairs Fee	8.00	8.00
Transportation Fee	17.00	17.00

*Fee required of all students. (Nonrefundable unless student withdraws officially before the close of general registration.)

Special Fees

Application for Undergraduate Admission (Freshman, Transfer, and Foreign Students)	\$10.00
Application for Admission (Medicine and Dentistry)	30.00
Application for Admission (College of Law and Graduate Studies)	20.00
Certificate of Advanced Study in Education	2.00
Diploma Replacement	20.00
Examination for Advanced Standing	35.00
Examination for Entrance Credit, per unit	1.00
Non-Enrolled Graduate Student Evaluation Fee	50.00
(For graduate students not otherwise enrolled at time of final examination.)	
General Educational Development Tests (high school level)	15.00
(If the applicant applies for admission to and registers in WVU within twelve months of the date of qualifying for the test, a \$10.00 credit shall be established for the applicant.)	
Graduate Program Continuance Fee	35.00
Graduation	20.00
(Payable by all students at the beginning of the semester or session in which they expect to receive their degrees.)	
Late Registration (nonrefundable)	20.00
(Not charged to students who complete registration during the regular registration days as set forth in the University Calendar.)	
Reinstatement of Student Dropped from the Rolls	10.00
Student Identification Card Replacement	10.00
Student's Record Fee	3.00
(One transcript of a student's record is furnished by the Office of Admissions and Records without charge. This fee is charged for furnishing an additional transcript.)	

ESTIMATED EXPENSES FOR MEDICAL CENTER PROGRAMS (First Semester)

[Subject to Change]

Tuition and registration are the same for both semesters. Some expenses, such as instruments and books, will be different for the Second Semester.

School or Division	Tuition and Registration Fees		Instruments	Lab Costs, Uniforms etc.	Books	Total	
	Resident	Nonresident				Resident	Nonresident
Dental Hygiene							
Freshman	\$ 580.00	\$1,570.00	\$ 150.00	\$ 25.00	\$210.00	\$ 965.00	\$1,955.00
Sophomore	580.00	1,570.00	850.00	185.00	210.00	1,825.00	2,815.00
Junior	580.00	1,570.00	260.00	100.00	230.00	1,170.00	2,160.00
Senior	580.00	1,570.00	100.00	100.00	210.00	990.00	1,980.00
Dentistry							
First Year	1,045.00	2,395.00	2,822.00	88.00	809.00	4,564.00	5,914.00
Second Year	1,045.00	2,395.00	501.00	110.00	167.00	1,823.00	3,173.00
Third Year	1,045.00	2,395.00	_____	_____	66.00	1,111.00	2,461.00
Fourth Year	1,045.00	2,395.00	_____	_____	_____	1,045.00	2,395.00
Medical Technology							
Junior	580.00	1,570.00	40.00	85.00	139.00	844.00	1,834.00
Summer	125.00	291.00	_____	220.00	268.00	613.00	779.00
Senior	580.00	1,570.00	_____	185.00	_____	765.00	1,755.00
Medicine							
First Year	1,195.00	2,545.00	450.00	100.00	300.00	2,045.00	3,395.00
Second Year	1,195.00	2,545.00	100.00	50.00	250.00	1,595.00	2,945.00
Third Year	1,195.00	2,545.00	_____	50.00	200.00	1,445.00	2,795.00
Fourth Year	1,195.00	2,545.00	_____	50.00	150.00	1,395.00	2,745.00
Nursing							
Sophomore	580.00	1,570.00	40.00	130.00	550.00	1,300.00	2,290.00
Summer	249.00	747.00	_____	_____	120.00	369.00	867.00
Junior	580.00	1,570.00	_____	_____	120.00	700.00	1,690.00
Senior	580.00	1,570.00	_____	_____	130.00	710.00	1,700.00
Pharmacy							
Third Year	580.00	1,570.00	48.00	30.00	260.00	918.00	1,908.00
Fourth Year	580.00	1,570.00	_____	30.00	195.00	805.00	1,795.00
Summer	342.00	1,089.00	_____	_____	_____	342.00	1,089.00
Fifth Year	580.00	1,570.00	_____	30.00	75.00	685.00	1,675.00
Physical Therapy							
Junior	580.00	1,570.00	60.00	70.00	300.00	1,010.00	2,000.00
Senior	580.00	1,570.00	_____	70.00	335.00	985.00	1,975.00
Summer	186.00	684.00	_____	_____	_____	186.00	684.00

TUITION & REGISTRATION FEES BREAKDOWN	Tuition	Registration	Higher Education Resources	Institutional Activity	Mountainair Construction	Faculty Improvement	Total
Dent. Hyg., Med. Tech., Nsg., Pharm. Resident	\$130.00	\$ 50.00	\$ 180.00	\$165.00	\$40.00	\$15.00	\$ 580.00
Phys. Ther. (Full-time 12 hr. or more) Nonresident	500.00	250.00	565.00	165.00	40.00	50.00	1,570.00
Graduate (Full-time: 9 hr. or more) Resident	160.00	50.00	180.00	165.00	40.00	15.00	610.00
Nonresident	600.00	250.00	565.00	165.00	40.00	50.00	1,670.00
Dentistry (Full-time: 9 hr. or more) Resident	300.00	50.00	475.00	165.00	40.00	15.00	1,045.00
Nonresident	800.00	250.00	1,090.00	165.00	40.00	50.00	2,395.00
Medicine (Full-time: 9 hr. or more) Resident	300.00	50.00	475.00	165.00	40.00	15.00	1,195.00*
Nonresident	800.00	250.00	1,090.00	165.00	40.00	50.00	2,545.00*

TUITION PER SEMESTER HOUR—PART-TIME & SUMMER (Under 9 hr.)	Resident	Nonresident
Dental Hygiene, Medical Technology, Nursing, Pharmacy, and Physical Therapy	\$31.00—Per Credit Hour—\$114.00—plus Special Fees	
Graduate	45.00—Per Credit Hour— 164.00—plus Special Fees	
Dentistry	93.00—Per Credit Hour— 244.00—plus Special Fees	
Medicine**	93.00—Per Credit Hour— 244.00—plus Special Fees	
SEMESTER \$45.00—SPECIAL FEES—SUMMER \$17.00 under 6 hr. — \$63.00 6 hr. or more each session		

*Includes \$150.00 Medical Education Fee

**Plus Medical Education Fee prorated

Refund of Fees

A student who officially withdraws from University courses may arrange for a refund of fees by submitting to the University Controller evidence of eligibility for a refund.

To withdraw officially, a student must apply to the Division of Student Affairs for permission. Semester fees will be returned in accordance with the following schedule:

<i>Academic Year (Semester)</i>	<i>Refund</i>
During the first and second weeks	90%
During the third and fourth weeks	70%
During the fifth and sixth weeks	50%
Beginning with the seventh week	No Refund

Summer Sessions and Non-Traditional Periods

Refunds for summer sessions and non-traditional periods are established based upon the refund rate for the academic year. (For specific information concerning Summer Session refunds, see the appropriate *Summer Schedule of Courses*.) Should the percentage calculation identify a partial day, the entire day will be included in the higher refund period.

No part of the Activity Fee is refundable unless the student withdraws from the University.

University policy provides that students called to the armed services of the United States may be granted full refund of refundable fees, but no credit, if the call comes before the end of the first three-fourths of the semester, and that the full credit of courses be granted to persons called to the armed services of the United States if the call comes thereafter; provided, however, that credit as described above will be granted only in those courses in which the student is maintaining a passing mark at the time of departure for military service. In the recording of final grades, for three-fourths of a semester or more, both passing and failing grades are to be shown on the student's permanent record.

Identification Card

An identification card is issued to each full-time student upon paying full fees. It entitles the owner admission to certain University athletic events, various activities of student administration, Health Service, and Mountainlair. Confiscation will result from misuse. The University reserves the right to refuse reissuance of an identification card.

Residential Status for Admission and Fee Purposes

The West Virginia Board of Regents has adopted a policy regarding classification of students as residents or nonresidents for admission and fee purposes at all institutions under its jurisdiction.

1. *General.* Students enrolling in a West Virginia public institution of higher education shall be classified as resident or nonresident for admission, tuition, and fee purposes by the institutional officer designated by the President. (At West Virginia University, the Director of Admissions and Records.) The decision shall be based upon information furnished by the student and all other relevant information. The Director of Admissions and Records is authorized to require such written documents, affidavits, verifi-

cations, or other evidence as are deemed necessary to establish the domicile of a student. The burden of establishing residency for admission, tuition, and fee purposes is upon the student.

If there is a question as to residence, the matter must be brought to the attention of the Director of Admissions and Records at least two weeks prior to the deadline for the payment of tuition and fees. Any student found to have made a false or misleading statement concerning residence shall be subject to institutional disciplinary action and will be charged the nonresident fees for each academic term theretofore attended.

2. *Residence Determined by Domicile.* Domicile within the State means adoption of the State as the fixed permanent home and involves personal residence within the State with no intent on the part of the applicant or, in the case of the dependent student, the applicant's parent(s) to return to another state or country. Residing with relatives (other than parent(s)/legal guardian) does not, in and of itself, cause the student to attain residence in this State for admission or fee payment purposes. West Virginia domicile may be established upon the completion of at least twelve months of continued residence within the State prior to the date of registration, provided that such twelve months residency is not primarily for the purpose of attendance at any institution of higher education in West Virginia.

Establishment of West Virginia domicile with less than twelve months residence prior to the date of registration must be supported by evidence of positive and unequivocal action. Priority consideration should normally be given to such evidence as the purchase of a West Virginia home, full-time employment within the State, paying West Virginia property tax, filing West Virginia income tax returns, registering of motor vehicles in West Virginia, and marriage to a West Virginia resident. Items of lesser importance which might be considered as support factors include registering to vote in West Virginia and the actual exercise of such right, possessing a valid West Virginia driver's license, transferring or establishing local church membership, involvement in local community activities, and various other acts which may give evidence of intent to remain indefinitely within the State. Proof of a number of these actions shall be considered only as evidence which may be used in determining whether or not a domicile has been established. Factors militating against the establishment of West Virginia residency might include such considerations as the student not being self-supporting, being claimed as a dependent on federal or state income tax returns or the parents' health insurance policy if the parents reside out of state, receiving financial assistance from state student aid programs in other states, and leaving the State when school is not in session.

3. *Dependency Status.* A dependent student is one who is listed as a dependent on the federal or state income tax return of his/her parent(s) or legal guardian or who receives major financial support from that person. Such a student maintains the same residency as that of the parent(s) or legal guardian. In the event the parents are divorced or legally separated, the dependent student takes the residence of the parent with whom he/she lives or to whom he/she has been assigned by court order. However, a dependent student who enrolls and is properly classified as a resident student maintains that classification as long as the enrollment is continuous and that student does not attain independence and establish domicile in another state.

A nonresident student who becomes independent while a student at an institution of higher education in West Virginia does not, by reason of such

independence alone, attain residence in this State for admission or fee payment purposes.

4. *Change of Residence.* A student who has been classified as an out-of-state resident and who seeks resident status in West Virginia must assume the burden of providing conclusive evidence that he/she has established domicile in West Virginia with the intention of making the permanent home in this State. The intent to remain indefinitely in West Virginia is evidenced not only by a person's statements but also by that person's actions. In making a determination regarding a request for change in residency status, the Director of Admissions and Records shall consider those actions referenced in Section 2 above.

5. *Military.* An individual who is on full-time active military service in another state or a foreign country or an employee of the federal government shall be classified as a resident for the purpose of payment of tuition and fees, provided that the person established a domicile in West Virginia prior to entrance into federal service, entered the federal service from West Virginia, and has at no time while in federal service claimed or established a domicile in another state. Sworn statements attesting to these conditions may be required. The spouse and dependent children of such individuals shall also be classified as residents of the State of West Virginia for tuition and fee purposes.

Persons assigned to full-time active military service in West Virginia and residing in the State shall be classified as in-state residents for tuition and fee purposes. The spouse and dependent children of such individuals shall also be classified as residents of the State of West Virginia for tuition and fee purposes.

6. *Aliens.* An alien who is in the United States on a resident visa or who has filed a petition for naturalization in the naturalization court, and who has established a bona fide domicile in West Virginia as defined in Section 2 may be eligible for resident classification, provided that person is in the State for purposes other than to attempt to qualify for residency status as a student.

7. *Appeal Process.* The decisions of the Director of Admissions and Records may be appealed to the President of West Virginia University. The President may establish such committees and procedures as are determined to be appropriate for the processing of appeals. The decision of the President of West Virginia University may be appealed in writing with supporting documentation to the West Virginia Board of Regents in accord with such procedures as may be prescribed from time to time by the Board.

Regulations Affecting Degrees

All degrees are conferred by the Board of Regents upon recommendation of the faculties of the various colleges and schools. Degrees are granted at the close of the semester or summer session in which the students complete their work.

Candidates for degrees are eligible for graduation when they complete the requirements in the college or school in which they are registered which were in effect at the time of their first registration in that college or school, provided they graduate within a period of seven years from the time of their first registration. Students who do not complete the requirements for graduation within seven years from their first registration must meet *all the conditions of a later Catalog* — one that will be no more than seven years old by the time they graduate.

If there are major changes in the *Undergraduate Catalog* during the student's course of study, the student does not have to abide by them unless they are promulgated by the Board of Regents, or by local, state, or federal law. However, by choice and with the approval of the adviser and the dean, a student may meet *all the conditions* of a later *Undergraduate Catalog* than that under which the student first registered in that college or school.

All candidates for degrees at WVU must report to their academic advisers and fill out an "Application for Graduation and Diploma." Application must be made during the first month of the semester or session in which the candidate expects to be graduated.

University policy provides that in view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of WVU the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

No degree will be conferred upon any candidate and no transcripts will be issued to any student before payment is made of all tuition, fees, and other indebtedness to any unit of the University.

Baccalaureate Degrees

Credits Required

In addition to the University requirements listed in this *Catalog*, each baccalaureate degree is conditional upon the completion of a specified number of semester hours of credit, as determined by the student's degree program requirements. Therefore, students must familiarize themselves with their school and degree program requirements.

English Composition and Rhetoric

Two semesters of English Composition and Rhetoric (English 1 and 2) are required of all candidates for the bachelor's degree in all colleges and schools of the University, unless part or all of the requirement for certain students of superior achievement is waived under regulations prevailing at the time of admission. Such students will be informed of their eligibility by the Coordinator of Writing Programs in English.

University Core Curriculum

To qualify for graduation, all WVU students must satisfy the requirements of the University Core Curriculum. The separate colleges and schools determine the time at which students take core courses during their total program of study at the University.

The purpose of the University Core Curriculum is to encourage the acquisition of a liberal education. A liberal education presupposes the capacity for synthesizing knowledge of the humanities, social sciences, natural sciences, and mathematics. Such a synthesis of both past and contemporary knowledge can make possible the intellectual flexibility needed to develop values, attitudes, tastes, and traits associated with the educated person in the modern world.

Three areas within the University Core Curriculum are recognized: *Core A* (the study of the accumulated knowledge and experience contained in world literature, fine arts, religion, and philosophy); *Core B* (the study of man's interaction with man and with society in the social, historical, political,

economic, and similar contexts); and Core C (the study of mathematical and natural sciences designed to foster individual acquisition of knowledge and skills necessary for scientific inquiry).

Twelve credit hours including at least two subjects must be taken in each area. (Two 4-credit courses and one 3-credit course may be substituted in lieu of 12 credit hours.)

The determination as to whether ROTC courses will be counted toward fulfillment of the University Core Curriculum or will be counted as free electives is the prerogative of the department chairperson or dean of the appropriate college or school.

Core A Courses:

Art (Art) 3, 30, 100, 105, 106, 200.

English (Engl.) 21-22, 24-25, 35-36, 40, 45, 80, 85, 101-104, 106, 108, 111-113, 125, 130-134, 141, 143, 145, 150, 170-172, 175, 178, 180-181, 183, 186, 188, 191, 197, 201-202, 208, 210-211, 220, 223, 232-233, 235-236, 240-241, 245, 250, 255-256, 261-268, 280, 283, 288, 290, 294.

Foreign Languages:

Chinese (Chin.) 191.

Classics (Class.) 1-4, 11-14, 101-102, 109-110, 113, 165, 192.

Foreign Literature in Translation (FLIT) 13-18, 111-112, 121-122, 131-132, 141-142, 151-152, 155, 161-162, 171, 181-182, 191-192.

French (Fr.) 1-4, 10-11, 21-24, 33-34, 101-104, 109-112, 115, 118.

German (Ger.) 1-4, 10-11, 23-24, 33-34, 103-104, 109-112, 121-122, 131, 191.

Hebrew (Hebrw.) 1-4, 191.

Italian (Ital.) 1-4, 109-110, 191.

Japanese (Japan.) 191.

Linguistics (Lingu.) 1-3, 111.

Polish (Polsh.) 1-2.

Portuguese (Port.) 1-4.

Russian (Russ.) 1-4, 103-106, 109-110, 144-145.

Spanish (Span.) 1-4, 10-11, 23-24, 33-34, 103-104, 109-110, 116-118, 121-122, 191.

Humanities (Hum.) 1-5, 10-11, 191, 290.

Multidisciplinary Studies (MDS) 40, 90, 91, 92.

Music (Music) 19, 30-31, 33-34, 61-68, 100, 102-103, 105, 110, 113, 115, 129-130, 135-138, 160, 171-172, 174, 200, 213, 218-219, 221-225, 230, 239, 243, 260, 263-268, 299.

Philosophy (Phil.) 1-292 (except Phil. 190).

Religious Studies (Relig.) 5-150, 197.

Speech Communication (Spch.) 11-14, 21, 80, 105-109, 111, 131, 133, 161, 180, 187, 191, 206, 221, 230-231.

Theatre (Theat.) 30, 50, 74, 95, 106, 180, 200, 220-221, 251, 282, 290-291, 295-298.

Women's Studies (Wm. St.) 40.

Core B Courses:

Child Development and Family Studies (CD&FS) 10, 12, 110.

Economics (Econ.) 51, 54-55, 110, 130, 160, 200, 211-213, 216, 241, 245-246, 250, 255, 257, 262-263, 270, 279.

Education Foundations (Ed. F.) 1.

Forestry (For.) 140.
 Geography (Geog.) 1, 7-8, 105, 107, 109-110, 140-141, 143-145, 150, 200-202, 205, 209, 215, 235.
 History (Hist.) 1-290.
 Mineral Resource Economics (M.E.R.) 97.
 Multidisciplinary Studies (MDS) 2, 40, 50, 60, 70, 90, 91, 92, 250. Note: MDS 80, "Special Topics," when offered as "Labor in America," may also be credited to Core B.
 Political Science (Pol. S.) 1-279. (Note: Pol. S. 188-189, 191, 195-196, and 200 **are not** core courses.)
 Psychology (Psych.) 1-282 (except Psych. 190, 213).
 Sociology and Anthropology (Soc. & A.) 1, 5, 51, 102, 121-123, 125, 131-133, 135-136, 138, 140, 145, 151, 153, 156-158, 160, 201-202, 204-205, 222, 232-233, 240, 255, 260-262.
 Sport and Exercise Studies (S.E.S.) 71.
 Technology Education (T.E.) 280-281.
 Women's Studies (Wm. St.) 40.

Core C Courses:

Agricultural Microbiology (Ag. Bi.) 141, 201.
 Animal Nutrition (An. Nu.) 101.
 Animal Physiology (An. Ph.) 100, 225, 256, 280.
 Biology (Biol.) 1-271.
 Chemistry (Chem.) 10-250.
 Computer Science (C.S.). All Computer Science courses, except those numbered 190-197, qualify for Core C; however, the only undergraduate Computer Science courses open to non-majors are C.S. 5 and C.S. 60.
 Economics (Econ.) 125, 220, 225.
 Entomology (Ento.) 152, 204, 210, 212.
 Genetics (Gen.) 171, 290.
 Geology (Geol.) 1-4, 7.
 Mathematics (Math.) 3-292.
 Multidisciplinary Studies (MDS) 2, 60, 70, 90, 91, 92.
 Nutrition (Nutrn.) 71.
 Physical Science (P. Sci.) 1-2, 11-12.
 Physics (Phys.) 1-283; Astronomy (Astro.) 106, 216, 267.
 Statistics (Stat.) 101, 201-291.

Academic Advising and General Studies Status

Students admitted to programs in the Colleges of Agriculture and Forestry, Creative Arts, Engineering, Mineral and Energy Resources, the School of Physical Education and the Division of Dental Hygiene may enroll directly in the appropriate degree program and be assigned an academic adviser from the respective college or school.

The Colleges of Arts and Sciences and Human Resources and Education and the School of Social Work admit students to pre-programs in their majors. Students are assigned special academic advisers who will help them until they fulfill all requirements for admission to a degree program.

Other students may begin their work in one of the University's pre-programs, e.g. pre-Business and Economics, pre-Journalism, pre-Medical Technology, pre-Nursing, pre-Pharmacy, and pre-Physical Therapy. Normally, completion of 30-68 credits and a specific curriculum are required before admission to a degree program is granted. Students enrolled in these pre-

programs are advised in the University Advising Center, where full-time professional advisers are available in each of these areas.

Students who are undecided about their major may enroll in General Studies. This possibility provides the undergraduate student with an opportunity to explore several career and academic program options before selecting a specific major or program of study. While examining options, students will enroll in courses that fulfill University requirements for graduation and provide a solid liberal arts foundation. A student may remain in General Studies through four semesters of college course work or until admitted to a degree program. Students selecting General Studies will be advised in the University Advising Center. Advising Center staff also provide services to part-time and special (non-degree) students.

Also see pages 36-37.

Branch, Community, and Junior Colleges

Seventy-two hours of credits and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia system of higher education may be applied toward a baccalaureate degree at WVU. Transfer credit for college-parallel courses completed at other community colleges and junior colleges may not exceed 72 hours. Transfer credit from community colleges and junior colleges is normally limited to lower-division courses.

Requirements As to Residence

A student who comes to WVU from another college or university should transfer not later than the beginning of the third year. In no case will a student who matriculates in WVU later than October 1 in any year be permitted to receive a degree at the next commencement.

In special cases, students who desire to leave WVU at the close of their third year to enter another institution for the purpose of taking a combined course leading to two degrees or of preparing for graduate study, upon application beforehand to the Committee on Academic Standards of the college or school in which they are registered, may be permitted to do the work of the fourth year, or a part thereof, at such other institution and to receive the bachelor's degree from WVU upon presentation of the proper credits.

The transfer student whose undergradutate work has been altogether in institutions within the West Virginia state system of higher education must complete either the last 30 hours of work, or a minimum of 36 hours including 16 of the last 32 hours in residence. Other transfer students must complete either a total of at least 90 hours or the last 30 hours in residence at WVU. The transfer student may be required to earn up to 15 hours in the major field in residence regardless of the number of hours and the nature of the courses transferred.

Work Done Out of Residence

It is WVU policy to discourage the taking of regular residence courses in absentia. In the case of courses begun at WVU and not completed because of illness or for other acceptable reasons, however, permission to complete the work in absentia under the direction of regular WVU instructors may be granted by the Committee on Academic Standards of the college or school concerned; but in such case credit should be given only upon a report of a grade of no less than C on final examination. This regulation does not apply to WVU off-campus courses.

If the final grade of a student in any course is F, the student must take the course again in residence at WVU if the student desires to receive credit for it, unless the dean of the college or school authorizes the exception.

A student currently enrolled in WVU who wishes to obtain credit toward a WVU degree for courses offered at other institutions should obtain advance approval in writing from the adviser, dean, and the Director of Admissions and Records. Some courses at some institutions are not directly transferable to WVU credit and, thus, the student runs the risk of losing such credit unless prior approval has been obtained. A student wishing to transfer credit from another institution should also be aware of the "Requirements As to Residence" and the specific degree requirements described elsewhere in this *Catalog*. Transfer credit from institutions outside the West Virginia state system will be accepted only for courses carrying a grade of C or higher when conditions indicated above have been met.

A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at WVU upon readmission to the University. After one semester of satisfactory performance (C average or better on a minimum of 12 credit hours earned during the regular semester or during the summer sessions) the appropriate transfer credit will be entered into the student's record upon certification by the adviser and dean that the above conditions have been met.

Substitution for Required Courses

A student who desires to substitute another course for any prescribed in the student's curriculum or required for the degree toward which the student is working must obtain permission for such substitution from the Committee on Academic Standards in the student's college or school.

Advanced Placement Credit

West Virginia University encourages students to work to their full capacity and to advance as rapidly as appropriate in their academic work. A number of opportunities are open to both qualified high school juniors and seniors, as well as to adults returning to school after an interval of work or military experience, to demonstrate competence beyond that normally associated with graduation from high school.

High school students who take college-level subjects offered in their schools in cooperation with the College Entrance Examination Board (CEEB) Advanced Placement Program should take the appropriate three-hour examinations administered by the Advanced Placement Service and have the scores sent to WVU. Credit for corresponding WVU courses will be given for high achievement on these tests.

Applicants for admission to the University, especially those who have gained a significant level of maturity through their life experiences, may gain college credit for their educationally related experiences through the College Level Examination Program (CLEP) of the CEEB. Policy of the West Virginia Board of Regents allows University credit to be awarded for successful completion of any of the CLEP Subject Examinations, except English composition, as well as allowing up to 34 hours of general education credit for successful performance on the CLEP General Examinations. Although the program is designed primarily for adults, exceptionally well qualified high school seniors may find it advantageous to seek advanced standing via the

CLEP program. Interested applicants may write the Director of Admissions and Records for further information regarding the CLEP program and WVU credit.

Advanced placement also may be granted for specific military experience. Returning veterans should consult the Director of Admissions and Records for details.

After admission to WVU, students may elect to take examinations demonstrating their competence in particular course work. Credit or advanced placement is given for satisfactory completion of the tests. Students interested in challenging courses by examination should consult their advisers for procedures and details.

Credit by Examination

Students actively enrolled in WVU may receive credit for courses demonstrating competency in the content covered by a particular course. The department responsible for administering the course will determine the evaluation tools. Where skill and cognitive abilities are components of the course, both will be evaluated. Credit will be given if a satisfactory degree of competency is demonstrated.

A college, school, or department may require students desiring such credit to prepare a self-evaluation statement determining the degree of competency they possess and the methods by which it was achieved.

Students interested in receiving credit for a course by examination should consult the college or school in which the course is offered for procedures and details.

Credit for Correspondence Work

Credit up to a maximum of 30 semester hours for work completed by correspondence in nonlaboratory courses will be accepted by WVU when such work is given by accredited colleges or universities that accept work for credit toward their own degrees and whose residence work is accepted by WVU.

Second Bachelor's Degree

A student who has received one baccalaureate degree and wishes to receive a second baccalaureate degree must satisfactorily complete enough additional credits so that the total, including all acceptable credits earned at WVU and elsewhere, is at least 30 semester hours more than the number required for the first baccalaureate degree; all requirements, departmental and otherwise, of the second baccalaureate degree program must be satisfied. In no case will a second baccalaureate degree be awarded to a student who has not met the University residence requirement (see "Requirements As to Residence").

A student who wishes to receive simultaneously two baccalaureate degrees must satisfactorily complete a minimum of 158 credits and meet all requirements, departmental and otherwise, of both degree programs. Students desiring to receive simultaneous baccalaureate degrees must be admitted to both programs and provide the Office of Admissions and Records of the college or school approvals in writing.

(Effective Date: Students graduating after August 31, 1979.)

Visitors

Full-time University students may attend classes as visitors, provided they obtain the written permission of their advisers and of the instructors in classes they desire to visit. Members of the administrative or teaching staffs, or other regular employees of the University, may attend classes as visitors provided they obtain written permission of the chairpersons of their departments and of the instructors in the classes which they desire to visit.

No credit is given for work in such classes. Such persons may not obtain credit by advanced standing examinations in courses attended as visitors.

Auditors

Students may enroll in courses without working for grade or for credit by registering as auditors and by paying full fees. Change in status from audit to credit or from credit to audit may be made during the registration period. Attendance requirements for auditors shall be determined by the instructor of the course being audited. It is the prerogative of the instructor to strike the name of any auditor from grade report forms and to instruct the Office of Admissions and Records to withdraw the auditor from the class, if attendance requirements are not met.

Summer Sessions

There are two summer sessions, each of six weeks duration. The first session begins approximately the middle of May and ends June 30. The second session begins July 1, and ends the second week of August. Requirements for admission and character of the work offered are the same for the summer sessions as for the regular academic year.

Credit may be obtained toward the bachelor's, master's, and doctorate. Offerings are varied from summer to summer so that students may complete work for the master's degree by attending summer sessions only.

For complete information, see the *WVU Summer Sessions Schedule of Courses*.

Grade-Point Average

All academic units of the University require minimum standards of scholastic quality. Grade points are computed only on grades earned at WVU and at other institutions in the West Virginia state system of higher education. To be eligible for graduation, a student must have a grade-point average of 2.0 (C) or higher on all work for which the student receives grades (except W, WU, and P). In addition, specific degree programs may require minimum grades of C, or in some cases higher than C, in specific courses or portions of the baccalaureate program.

It is the student's responsibility to keep informed of the student's grade-point standing. This information may be obtained at any time from the dean of the college or school in which the student is registered.

Seventy-two hours of credit and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia system of higher education may be applied toward a baccalaureate degree at WVU. Transfer credit for college-parallel courses completed at other community colleges and junior colleges is normally limited to lower-division courses.

Graduation With Honors

The University recognizes distinguished academic achievement by awarding initial and second baccalaureate degrees *summa cum laude*, *magna cum laude*, or *cum laude* to qualified students. All candidates for a baccalaureate degree whose grade-point average is 3.8, or higher, shall be graduated *summa cum laude*. Those whose average is lower than 3.8, but equal to or higher than 3.6, shall be graduated *magna cum laude*. Those whose average is lower than 3.6, but equal to or higher than 3.4, shall be graduated *cum laude*.

1. Grade-point averages for graduation with honors shall be computed by starting with the student's penultimate semester or summer session and continuing in reverse chronological order until at least 80 semester hours of work taken at West Virginia University or other Board of Regents institutions, excluding credits earned with a grade of P, have been counted. If in order to total the required number of hours it is necessary to include any part of a semester or summer session, the work of the whole semester or session shall be included. If it is to the student's advantage to do so, the cumulative grade-point average on all work completed at WVU or BOR institutions may be considered, provided that the total hours completed are 80 or more.

2. The student who does not complete 80 semester hours at WVU or a BOR institution by the end of the penultimate semester, may petition his or her dean for a review of his/her individual case. The dean will forward all requests to the Provost for the final decision.

3. Fitting recognition of graduation *summa cum laude*, *magna cum laude*, or *cum laude* shall be made on the candidate's diploma and in the Commencement Program.

Students completing a second baccalaureate degree at the University are eligible to receive the honors distinction of *summa cum laude*, *magna cum laude*, or *cum laude*. The following regulations govern these awards:

1. Grade-point averages for graduation with honors shall be computed on the last 80 semester hours, excluding credits earned with a grade of P or S, completed at West Virginia University or a West Virginia Board of Regents institution.

2. At least 30 of the 80 semester hours must have been completed in the second degree program through the penultimate semester or summer session. The remainder of the 80 semester hours will be counted from the student's first baccalaureate degree program, counting in reverse chronological order from the semester or summer session of graduation. If, in order to total the required number of hours it is necessary to include any part of a semester or summer session, the work of the whole semester or session shall be included.

3. Subject to the above conditions, second baccalaureate degree students may be awarded the following honors recognition: *summa cum laude*, provided a grade-point average of 3.8 or higher has been achieved in both the post-baccalaureate hours and the last 80 hours; *magna cum laude*, provided a grade-point average of 3.6 or better has been achieved in both the post-baccalaureate hours and the last 80 hours; or *cum laude*, provided a grade-point average of at least 3.4 has been achieved in both the post-baccalaureate hours and the last 80 hours.

4. Fitting recognition of graduation *summa cum laude*, *magna cum laude*, or *cum laude* shall be made on the candidate's diploma and in the Commencement Program.

Examinations

Courses

As a rule courses extend through one semester only, although some are of a year's duration. No credit will be given for less than an entire course except by special order of the Committee on Academic Standards. Grades given at the end of the first semester in courses extending throughout the year are merely indicative of the quality of work done by the student to that point and do not give credit for the part of the course so far completed. Such first-semester grades may be considered in determining the final grade, however.

Summer sessions courses carry the same credit value as courses offered in the regular semesters.

Evaluation of Student Progress

Measurement and evaluation of learning, consistent with the objectives of the course, provide opportunity for the student and the teacher to evaluate progress through a variety of methods. Evaluation by final examination alone is discouraged.

Students are responsible for all materials presented or assigned in scheduled instructional sections. Failure to complete all assigned work may result in a report of I or a grade of F at the discretion of the instructor.

Final examinations are held during the last week of each semester of the academic year and during the last two days of each summer session. A listing in the *Schedule of Courses* each semester sets the time for final examinations.

The only tests permitted during the week of classes preceding finals will be in evening classes, practical laboratory tests, make-up examinations, and regularly scheduled short quizzes.

Absence From Examinations

The student is required to take all regular examinations. If a student attends a course throughout the semester and is absent from the final examination without permission, the instructor shall count the examination as zero and report the final grade as F. If, in the opinion of the instructor, the absence of the student was for satisfactory reason, the grade of I may be reported.

A student who has been absent because of illness, authorized University activities, or other reasons approved by the student's dean, has the opportunity to make up regularly scheduled examinations.

Grade Reports

In the seventh week of classes of each semester, instructors in all undergraduate courses shall submit a report of students doing unsatisfactory work; that is, earning grades of D or F. These grades are used for counseling and are not recorded on the student's permanent record in the Office of Admissions and Records. These reports are sent to the Director of Admissions and Records or a representative and this information is transmitted to the student, parent or guardian, adviser, and dean of the college or school.

Final grades are reported by instructors directly to the Office of Admissions and Records within 48 hours after the closing of the examination. The rule also applies to the final grades of all students registered in other colleges and schools of WVU who are enrolled in law courses.

The final standing of all seniors provisionally approved for graduation at the close of the second semester shall be reported by their instructors to the deans of their colleges and schools, and the final standing of all graduate students provisionally approved for graduation shall be reported to the Associate Vice President for Graduate Studies and Research. Special report cards are supplied by the Director of Admissions and Records.

A report of each student's work is made at the close of the semester or summer session to the student or to the student's parents or guardian.

Grading, Absences, Academic Standing, Probation, Suspension, Reentry, Withdrawals

Grading System

- A — excellent (given only to students of superior ability and attainment)
- B — good (given only to students who are well above average, but not in the highest group)
- C — fair (average for undergraduate students)
- D — poor but passing (cannot be counted for graduate credit)
- F — failure
- I — incomplete
- W — withdrawal from a course before the date specified in the University Calendar. Students may not withdraw from a course after the specified date unless they withdraw from the University
- WU — withdrawal from the University doing unsatisfactory work
 - P — pass (see Pass-Fail Grading below)
 - X — auditor, no grade and no credit
- CR — credit but no grade
- PR — progress. Final grade at end of the second semester (Medical Center)
- S — satisfactory
- U — unsatisfactory (equivalent to F)
- *F — unforgivable F, not eligible for D/F repeat policy (see page 31)

Pass-Fail Grading

The basic purpose of pass-fail grading for undergraduates at WVU is to promote the undertaking of elective courses unrelated to the student's fields of degree concentration. A secondary purpose of pass-fail grading is to facilitate student grading in performance or competency based courses which may be an integral part of the student's program.

Student Option. Any full-time student who has completed 15 hours and maintains a 2.0 grade-point average may elect to take a maximum of 4 hours each semester or each summer session in which the grade earned will be either P (pass) or F (fail). The courses taken for pass-fail grading must be free electives and shall not exceed a total of 18 hours of credit. Unless otherwise indicated, excluded are courses in the student's major, courses in other subjects that are required by the major, and courses taken to satisfy either University, college, or school requirements. For example, courses elected to satisfy the English, Core, or Foreign Language requirements may not be taken for pass-fail grading.

The student electing the pass-fail grading option will be graded as a regular student and the appropriate letter grade will be submitted to the

Office of Admissions and Records. The Office of Admissions and Records shall convert the earned letter grade to P-F on the basis of A, B, C, or D for a pass, and F for a fail.

The selection of a course for pass-fail grading must be made at registration and may not be changed after the close of the registration period.

College or School Option. A department or unit may designate any performance or competency based course which, with the approval of the college or school and the Faculty Senate, may be offered exclusively as P-F. Such courses offered only as P-F shall not be included in the maximum of 18 hours that may be freely elected under the student option.

(This revised policy became effective as of the beginning of the First Semester, 1977-78, for grading under the Student Option.)

Grade Points

Grade points are based on the following grade-point values for each semester of credit:

A	B	C	D	F	I	U
4	3	2	1	0	0	0

The grade-point average is computed on all work in which the student has received a final grade(s) of A, B, C, D, F. The grades W, WU, P, S, and X carry no grade value, therefore they are not used in computing the student's grade-point average. The grade of Incomplete (I) is not used in computing a student's grade-point average in the semester in which the grade is given. The grade of I is used in computing the student's grade-point average the next semester the student takes classes at the University, and the student has not made up the incomplete. For purposes of grade-point average calculation, the I (Incomplete) is counted as an F.

D/F Repeat Policy

If an undergraduate student earns a grade of D or F in any course at WVU taken no later than the semester or summer session registration when a cumulative total of 58 hours has been attempted, and if this course is repeated in residence at WVU, one time only, the lower grade shall be disregarded for the purpose of determining the student's grade-point average, hours passed and hours attempted, and the higher grade earned for this course shall be used in determining the student's grade-point average, hours passed and hours attempted. The first grade recorded shall not be deleted from the student's record and the second grade will be entered marked repeat, in the semester when taken. The repeat shall be completed no later than the semester or summer session registration when a cumulative total of 70 hours has been attempted. *(Effective Date: For students enrolled for the first time at West Virginia University for a session after May 15, 1979.)*

Under the D/F Repeat Policy, a student may not delete an F received for cheating from his/her record. This F for cheating will remain on the record and will be calculated in the grade-point average.

For teacher certification the student is responsible for every registration in a course for which a grade of A, B, C, D, F, WU, P, or I is received.

Final Grade Appeals

Students have the right to appeal final course grades which they believe reflect a capricious, arbitrary, or prejudiced academic evaluation, or reflect discrimination based on race, color, creed, sex, or national origin. The grade

appealed shall remain in effect until the appeal procedure is completed, or the problem resolved. The primary intent of this procedure is to provide a mechanism whereby a student might appeal a failing grade or a grade low enough to cause the student to be eliminated from some program or to require the repeat of a course. Grade appeals that do not meet this classification are not precluded. It is understood that an extension of time in the procedural steps may be granted students if in the professional judgment of the chairperson or the dean such an extension is warranted.

Appeal Procedure

Step 1. The student shall discuss the complaint with the instructor involved prior to the end of the succeeding regular semester, whether enrolled or not. If the two parties are unable to satisfactorily resolve the matter within two weeks, the student shall notify the chairperson of the instructor's department or division (or, if none, the dean). (The chairperson or dean will assume the role of an informal facilitator and assist the student and instructor in their resolution attempts.) If the problem is not resolved, the student may proceed directly to Step 2. If the instructor is not available, or if the nature of the complaint makes discussion with the instructor inappropriate, the student shall proceed directly to Step 2.

Step 2. The student must prepare and sign a document which states the facts constituting the basis for the appeal. Copies of this document shall be given to the instructor and to the instructor's chairperson (or, if none, to the dean). If, within ten working days of receipt of the student's signed document, the chairperson cannot resolve the problem to the satisfaction of the student and instructor involved, the complaint will automatically be forwarded to Step 3.

Step 3. Within one week of receipt of the complaint, the instructor's dean shall make a determination regarding the grade, making any recommendation for a grade change to the instructor involved. If the instructor involved does not act on the dean's recommendation, or if the student is in disagreement with the decision of the dean, the case will be referred to a representative body of the instructor's department or college or school for final resolution. The number and make-up of this body is to be determined by the appropriate dean. In cases of an appeal to this body, the faculty member involved shall receive written notification of the grade challenge which shall include a statement of the facts and evidence to be presented by the student in support of the charges made with sufficient clarity to reasonably disclose the claim for a grade change. The faculty member involved and the student making the appeal shall receive written notification that a hearing will be held before the department or college or school committee together with the notice of the date, time, and place of the hearing. The final decision of this body shall be forwarded to the instructor involved. If the decision requires a change of grade, the instructor shall take action in accordance with the committee's decision. If the instructor does not act within five days, the dean will make the necessary grade adjustment. Implementation of this decision shall end the appeal procedure.

Probation, Suspension, Readmission, Expulsion Policy

Uniform Probation

Any undergraduate student whose cumulative average is 2.0 or higher is in good academic standing in the University. Every baccalaureate degree requires a minimum grade-point average of 2.0 for graduation.

Maximum Allowable Grade-Point Deficiency*

Total Hours Attempted**	Maximum Grade-Point Deficiency**	Total Hours Attempted**	Maximum Grade-Point Deficiency**
0-19	20	55-59	12
20-24	19	60-64	11
25-29	18	65-69	10
30-34	17	70-74	9
35-39	16	75-79	8
40-44	15	80-84	7
45-49	14	85 or more	6
50-54	13		

*The grade-point deficiency is the difference between the number of grade points needed for a 2.0 average and the number of grade points that a student has actually earned in all courses attempted.

**Includes all hours attempted in institutions in the West Virginia System of Higher Education, excluding grades of P exclusive of the D-F Repeat Policy.

Students whose cumulative grade-point average is below 2.0 will be notified on semester grade reports that their academic performance is unsatisfactory are then on probation.

Nothing in this statement prevents a unit from requiring a grade-point average above 2.0 or other academic requirements for purposes of determining probation or meeting degree requirements.

Uniform Academic Suspension Regulations

The student whose cumulative grade-point deficiency exceeds the "allowable grade-point deficiency" (see Table) is subject to suspension at any time. Normally, students are suspended at the end of a semester or summer school session. Deans have the authority to waive suspension in favor of probation if in their judgment the circumstances of individual cases so warrant. The suspension rule will be set aside only under extraordinary conditions.

Academic suspension identifies the status of a student who has failed to meet the University minimum standards and who has been notified formally by the dean of the college or school of academic suspension. Suspension from the University means that a student will not be permitted to register for any classes, including those in summer sessions, offered by the University for academic credit until the student has been officially reinstated. The normal period of suspension is a minimum of one academic semester but will not exceed one calendar year from the date of suspension.

A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at West Virginia University upon readmission to the University. After one semester of satisfactory performance (C average or better on a minimum of 12 credit hours earned during a regular semester or during the summer sessions) the appropriate transfer credit will be entered into the student's record upon certification by the adviser and dean that the above conditions have been met. A student who has preregistered and is subsequently suspended shall have his/her registration automatically cancelled.

Readmission After Suspension

During the semester immediately following the effective date of suspension, students who have been suspended may petition the Committee on Academic Standards of the college or school to which they wish to be admitted in care of the dean. The normal periods for consideration of petitions are October 1–November 15 and March 1–April 15 of each academic year. The college or school petitioned shall establish the terms of readmission for successful student petitions.

After one calendar year from the effective date of suspension, any student who has been once suspended shall, upon written application, be readmitted to the University, with the terms of readmission to be established by the college or school entered by the readmitted student.

A suspended student who is readmitted under the provisions above will be placed on academic probation and will be subject to the maximum grade-point deficiency regulations as before, unless the terms of probation agreed to by the student require otherwise. Each college or school will have the right to establish minimum levels of performance expectations.

(Effective: August 15, 1980, for all students.)

Uniform Academic Expulsion Regulations

Academic expulsion from the University means that a student will not be permitted to register for any classes, including those in summer sessions, offered by the University. Academic expulsion can result from repeated failure to make academic progress and/or to meet probationary terms set forth in writing by the student's college or school.

After five calendar years from the effective date of academic expulsion, any student who has been expelled shall, upon written application, be considered for readmission to the University, with the terms of readmission to be established by the college or school entered by the readmitted student. Failure to meet these terms will result in permanent academic expulsion.

Academic Forgiveness Policy

If a student has been out of residence at a West Virginia Board of Regents institution for at least five calendar years and has not been enrolled in any other academic institution of higher learning during those five years, then the student may be eligible for readmission to West Virginia University under the Academic Forgiveness Policy.

The conditions and rules of the Academic Forgiveness Policy are as follows:

1. Readmission to WVU under the Academic Forgiveness Policy is conditional upon first meeting the above stated out-of-residence period. In addition, a recommendation that the student be readmitted under the Academic Forgiveness Policy must be submitted by the dean of the college or school that the student plans to enter and the recommendation must be approved by the Office of the Provost and Vice President for Academic Affairs and Research.

2. Upon readmission to WVU under the Academic Forgiveness Policy, credit hours (only) will be utilized for those courses completed by the student during any prior enrollment period in which a grade of D or higher had been earned.

3. Grades earned during any prior enrollment period will not be counted for purposes of calculating the student's grade-point average while under the Academic Forgiveness Policy, but grades earned will remain on the student's permanent record.

4. The student must meet and complete all course work required to meet the college's or school's requirements for graduation, but under no circumstances after the student has been readmitted under the Academic Forgiveness Policy shall the student complete fewer than 64 credit hours prior to earning his/her degree.

5. A student readmitted to WVU under the Academic Forgiveness Policy will follow all regulations regarding probation, suspension, and expulsion.

Absences

Students who are absent from class for any reason are responsible for work missed.

Students should understand that absences may jeopardize their grades or continuance in the course.

Instructors who use absence records in the determination of grades must announce this fact to students (in writing) within the first five class meetings.

It is the responsibility of the instructor to keep an accurate record of all students enrolled.

Instructors may report excessive absences to the student's dean or adviser.

Students who have been absent because of illness, authorized University activities, or other reasons approved by their deans, have the opportunity to make up regularly scheduled examinations.

Withdrawals

Withdrawal From Classes

Deadlines: Until the Friday of the tenth week of class (or Friday of the fourth week in a six-week summer session, or Friday of the second week of a three-week summer session), students may withdraw from individual courses. Deadlines will be published in the *University Schedule of Courses* each semester.

Procedures:

1. Before withdrawing from individual classes, students are responsible for consulting their advisers to determine:

(a) Whether their course loads would be reduced below the minimum requirements set by their colleges or schools (if so, permission of the Committee on Academic Standards of the respective college or school is required *before* the course adjustment form may be submitted); or

(b) Whether their course loads would be reduced below the minimum number of hours required to qualify for special status, e.g., financial aid, varsity athletic competition, or international full-time student status; or

(c) Whether the courses to be dropped are required to fulfill academic probationary conditions; and/or

(d) Whether the courses from which they desire to withdraw might be

(1) Corequisite with other courses they are taking; or

(2) Prerequisite to other courses required for the next term.

2. Students must obtain adviser signatures on the University course adjustment forms and then submit the forms to the Office of Admissions and Records.

3. Students who withdraw from courses following all the established University procedures before the published deadline will receive a W on the transcript for the appropriate courses. Grade-point averages are not affected in any way by this mark.

Withdrawal From the University

Deadlines: Students may withdraw from the University any time before the last day on which regular classes are scheduled to meet. Students who withdraw from the University before the Friday of the tenth week of classes (or the Friday of the fourth week in a six-week summer session, or the Friday of the second week of a three-week summer session) will receive grades of W in all their courses for that semester or session. Students who withdraw after these deadlines will receive grades of W in those courses in which satisfactory progress had been made; they will receive grades of WU for courses in which progress had been unsatisfactory.

Procedures:

1. Students who decide to leave WVU should withdraw from all classes and must do so in accordance with established University policy. Students are responsible for all *financial obligations* and for following established procedures, including the completion of forms and the delivery of the completed forms to appropriate officials. Students not fulfilling these financial obligations may have difficulty withdrawing from the University. The withdrawal becomes official only after the forms have been recorded by the Director of Admissions and Records.

2. Students who are unable to withdraw in person because of illness, accident, or other valid reasons, still must send to the Office of Student Life notification of their intention to withdraw. The notice should be verified in writing and the student ID and PRT cards enclosed.

3. Students who desire to withdraw from WVU must obtain a withdrawal form from the Student Affairs office (or dean's office of an off-campus instructional unit). Withdrawal procedure will be explained at that time. Identification (ID) and PRT cards must be presented.

4. With the help of their academic advisers, students are responsible for determining how withdrawal from the University may affect their future status with the University, including such aspects as suspension for failure to make progress toward a degree or violation of established academic probation and eligibility for scholarships, fellowships, or financial aid.

Re-Enrollment After Withdrawal

An undergraduate student who withdraws from WVU in two consecutive semesters (excluding summer sessions) may not register for further work without approval of the dean of the college or school in which the student wishes to register and subject to conditions set by that dean.

Advisers, Committee on Academic Standards

Advisers

Each student entering WVU is assigned an adviser whose duty is to assist students in preparing schedules, assign them to classes, and certify their study lists to the Director of Admissions and Records. The advisers are

expected to give such advice and sympathetic guidance as the students may need in their work at the University. Students are expected to go freely to their advisers to discuss problems.

Advisers, upon receipt of reports of excessive numbers of absences, shall have conferences with the student concerned and shall make such recommendations and adjustments as are desirable and feasible. If the adviser does not find a satisfactory solution after a conference with the student, the case shall be reported to the dean of the college or school.

Also see page 23.

Committee on Academic Standards

The Committee on Academic Standards of each college or school shall have authority to proceed according to its best judgment in regard to students referred to it for consideration.

All orders of the committee shall become effective when approved by the dean of the college or school.

In exercising its authority the committee shall not suspend a student during a semester except for willful neglect and in cases where the student's class grades are so low that further class attendance would be a waste of time. No suspension shall become effective until approved by the dean of the college or school.

Academic Dishonesty

The academic development of students and the overall integrity of the institution are primary responsibilities of WVU. Academic dishonesty is condemned at all levels of life, indicating an inability to meet and face issues and creating an atmosphere of mistrust, disrespect, and insecurity. In addition, it is essential in an academic community that grades accurately reflect the attainment of the individual student. Faculty, students, and administrators have shared responsibilities in maintaining the academic integrity essential for the University to accomplish its mission.

Responsibilities

Students should act to prevent opportunities for academic dishonesty to occur, and in such a manner to discourage any type of academic dishonesty.

Faculty members are expected to remove opportunities for cheating, whether related to test construction, test confidentiality, test administration, or test grading. This same professional care should be exercised with regard to oral and written reports, laboratory assignments, and grade books.

Deans and department chairpersons are expected to acquaint all faculty with expected professional behavior regarding academic integrity, and to continue to remind them of their responsibility. Deans and department chairpersons shall assist faculty members and students in handling first-offense cheating allegations at the lowest possible level in the University, and with discretion to prevent damage to the reputation of any person who has not been found guilty in the prescribed manner.

Each member of the teaching faculty and all other WVU employees, including but not limited to assistants, proctors, office personnel, custodians, and public safety officers, shall promptly report each known case of academic dishonesty to the appropriate supervisor, department chairperson, or dean of the college or school concerned.

Academic Dishonesty Defined

Academic dishonesty is defined to include any of the following:

1. Plagiarism: Submitting for credit, without appropriate acknowledgment, a report, notebook, speech, outline, theme, thesis, dissertation, or other written, visual, or oral material that has been knowingly obtained or copied in whole or in part from another individual's academic composition, compilation, or other product, or commercially-prepared paper.
2. Cheating and dishonest practices in connection with examinations, papers, and projects, including but not limited to:
 - a. Obtaining help from another student during examinations.
 - b. Knowingly giving help to another student during examinations, taking an examination or doing academic work for another student, or providing one's own work for another student to copy and submit as his/her own.
 - c. The use of notes, books, or any other source of information during examinations, unless authorized by the examiner.
 - d. Obtaining without authorization an examination or any part thereof.
3. Forgery, misrepresentation or fraud:
 - a. Knowingly furnishing false statements in any University academic disciplinary proceeding.
 - b. Forging or altering, or causing to be altered, the record of any grade in a gradebook, office or other education record.
 - c. Use of University documents or instruments of identification with intent to defraud.
 - d. Presenting false data or intentionally misrepresenting one's records for admission, registration or withdrawal from the University or from a University course.

Procedure for Handling Academic Dishonesty Cases

1. Procedures for infractions of institutional academic standards, rules, and regulations are published in the *University Catalog* and other written documents and are binding on all students.
2. Procedure for academic dishonesty including: plagiarism; cheating and dishonest practices in connection with examinations, papers and projects; and forgery, misrepresentation and fraud. Charges may be filed by any member of the academic community.
 - a. *Step 1.* At the discretion of the student, faculty member, and chairperson of the department, some cases where there is an admission, in writing, of guilt by the student may be satisfactorily resolved at the departmental level. The maximum penalty at Step 1 is an F in the course. Whenever a penalty is administered, the facts of the case shall be reported in writing to the dean of the college or school, and a copy forwarded to the Office of Judicial Programs in Moore Hall for the permanent records. In cases wherein cheating occurs in a college or school other than that in which the student is a degree candidate, the results of the case shall be reported to the dean of the college or school in which the student involved is enrolled.
 - b. *Step 2.* When the student denies guilt, or the faculty member or department chairperson feels the penalties available at Step 1 are insufficient for a specific act, the dean of the college or school in which the course is offered shall be notified in writing of the

specifics of the case. The dean shall then implement the following steps:

- (1.) Formal notification to the student of the charges and the nature of the evidence, which if proved would justify action.
 - (2.) Opportunity for the student and witnesses to respond in writing, rebutting the charges.
 - (3.) Opportunity for the student to request that the case be forwarded by the dean to the University Conduct/Appeals Committee (Step 3).
 - (4.) If the student admits guilt in a signed statement to the dean, or is found guilty, the dean shall prescribe the penalty deemed appropriate. The dean shall promptly report thereon in writing to the Office of Judicial Programs. A copy of such report will also be forwarded to the dean of the college or school in which the student is enrolled. The purpose of this copy of the report is to provide information in the event that further discipline or penalty may be deemed warranted by the dean of the college or school in which the student is a degree candidate. These records will be maintained by the dean(s) until the student graduates, at which time the records will be destroyed.
- c. Step 3. The University Conduct/Appeals Committee shall handle cases referred by a dean or requested by a student. The case must be heard using the University Conduct/Appeals Committee guidelines. The University Conduct/Appeals Committee shall present to the accused student and to the person making the accusation written notification of the charges, which shall include at least: (a) a statement that a hearing will be held before the University Conduct/Appeals Committee together with the notice of the date, time and place of the hearing; and (b) a clear statement of the facts and evidence to be presented in support of the charges made. If the University Conduct/Appeals Committee finds the student guilty, it will determine the penalty it deems appropriate under the circumstances and inform the student of its actions. The action taken by the University Conduct/Appeals Committee shall be final.

Criminal Act in Connection With Cheating

If a student admits in writing that he/she has been guilty of academic dishonesty or is found guilty of academic dishonesty by the University Conduct/Appeals Committee, in a case involving what is believed to be a criminal offense—such as theft of an examination or test materials, alteration of records, forgery, breaking or entering buildings, offices, desks, safes, or filing cabinets, damage to property, and other similar misconduct—the academic penalties and discipline as herein prescribed shall be applied. In addition, the facts of the case will be presented to the appropriate prosecuting attorney for further investigation and for such criminal or other action as may be warranted.

Dismissal From an Undergraduate Program

Dismissal from an undergraduate program based on program and/or professional performance standards other than cumulative grade-point average:

1. Reasons must be based on *Catalog* and other written documents describing academic performance standards and expectations.

2. Procedural

Step 1. Counseling by departmental committee or representative as soon as possible after discovery of problem.

Step 2. Second counseling by departmental committee or representative after opportunity to improve if performance has not changed sufficiently.

Step 3. Formal review of student's status by departmental or program committee to determine:

a. Student retained or recommended for dismissal.

b. Counseling or remediation steps required as a condition of retention.

c. Appeals if recommended for dismissal.

Step 4. A dismissal decision by the dean of the student's school or college may be appealed to the University Conduct/Appeals Committee which will hold a hearing. The student may be advised by a person of his/her choice in the hearing.

Step 5. A decision for dismissal must be reviewed by the appropriate academic Vice President who may confirm or remand the recommendation with specific conditions for the review process.

Step 6. A recommendation for dismissal by the University Conduct/Appeals Committee confirmed by the appropriate academic Vice President may be appealed to the President whose decision is final.

Dismissal From a Graduate Or a Professional Program

Dismissal from a graduate or professional program based on program and/or professional performance standards other than cumulative grade-point average:

1. Reasons must be based on *Catalog* and other written documents describing academic and professional performance standards and expectations.

2. Procedural

Step 1. Counseling by departmental committee or representative as soon as possible after discovery of problem.

Step 2. Second counseling by departmental committee or representative after opportunity to improve if performance is not changed sufficiently.

Step 3. Formal review of student status by department or program committee to determine:

a. Student retained or recommended for dismissal.

b. Counseling or remediation steps required as a condition of retention.

c. Appeals available if dismissal recommended.

Step 4. A dismissal decision by the dean of the student's school or college may be appealed to the University Conduct/Appeals Committee which will hold a hearing using the following procedures:

a. The student may be advised by a person of his/her choice to assure due process protection not to affect the outcome of the proceedings. The adviser may consult with the student but shall not speak on behalf of the student or participate directly unless granted specific permission by the University Conduct/Appeals Committee.

b. The formal rules of evidence do not apply.

c. The administrative procedure is not adversarial in nature.

d. Witnesses may be presented and examined under oath.

e. An accurate record of the procedure is to be kept. The student may request a transcript of the proceedings at the student's expense.

- f. An academic appeals committee has the right to counsel in those proceedings in which the student has retained counsel. Such counsel may not speak on behalf of the institution or otherwise participate directly in the proceedings.

Step 5. A decision for dismissal must be reviewed by the appropriate academic Vice President who may confirm or remand the recommendation with specific instructions.

Step 6. Recommendation for dismissal confirmed by the appropriate academic Vice President may be appealed to the President. The decision of the President is final.

WVU Medical Center/Basic Sciences Graduate Programs

Graduate degrees are offered by the School of Dentistry, School of Nursing, School of Pharmacy and the Department of Anatomy, Biochemistry, Microbiology, Pharmacology and Toxicology, Physiology, and Pathology (Medical Technology) in the School of Medicine. Brief guidelines and descriptions of these programs are described in this *Catalog*. For more detailed presentation of graduate programs, as well as the policies and rules governing graduate education, the *Graduate Catalog* should be consulted.

General Policies and Procedures

Medical Center Graduate Council

The Medical Center Graduate Council advises the Vice President for Health Sciences. In this role the Council monitors and administers the graduate studies policies of the health sciences schools located at the Medical Center. The membership of the Council includes: Fred R. Butcher (Chairperson), Robert E. Stitzel and Irvin S. Snyder, School of Medicine; John W. Mauger, School of Pharmacy; James E. Overberger, School of Dentistry; Luz S. Porter, School of Nursing, and Darlene Taylor, Secretary of the Council.

Application and Admission

Application

Prospective graduate students are urged to initiate application for admission as early as possible. The first step of a student interested in a degree program should be to ask for information from the department, division, school, or college offering the program desired; the reply to such an inquiry will include instructions for applying to the particular program.

In all cases, application must be made for admission to graduate study on standard forms provided by the WVU Office of Admissions and Records. The completed form is to be returned to the Office of Admissions and Records, and must be accompanied by payment of a nonrefundable special service fee of \$20.00. Applicants must at the same time request the registrar or records office of the college of their baccalaureate degree to send an official transcript directly to the Office of Admissions and Records. If other institutions have been attended in the course of undergraduate or graduate study, transcripts should be requested from them as well. No one is admitted to graduate study who does not hold a baccalaureate degree.

If the applicant meets the minimum admission requirements of WVU, a copy of the application is forwarded to the faculty of the program of interest. Any graduate degree program is permitted to set admission requirements which go beyond the minimum admission standards of the University. No one can pursue an advanced degree at WVU unless admitted to the appropriate degree program.

Reapplication

When a student graduates or completes the program for which he/she applied, the student must reapply and be readmitted before taking further course work at WVU. This policy assures that the University is informed of

the student's objectives and that he/she is assigned an appropriate adviser. Students will be assessed the application fee for each new application.

When eight years have passed since initial course work, a student must reapply. The application fee will be assessed.

Classification of Graduate Students

1. *Regular.* A regular graduate student is a degree-seeking student who meets all the criteria for regular admission to a program of his/her choice. The student must possess a baccalaureate degree from a college or university, must have at least a grade-point average of 2.5 (on a 4.0 scale), have met all the criteria established by the degree program, and be under no requirements to make up deficiencies.

2. *Provisional.* A student may be admitted as provisional by any unit when the student possesses a baccalaureate degree but clearly does not meet the criteria for regular admission. The student may have incomplete credentials, deficiencies to make up, or may have an undergraduate scholastic record which shows promise, but less than the 2.5 grade-point average required for regular admission.

3. *Non-Degree.* A non-degree student is a student not admitted to a program. Admission as a non-degree student does not guarantee admission to any course or program. To be admitted as a non-degree student, a student must only present evidence of a baccalaureate degree, but the student must obtain a 2.25 grade-point average on the first 12 credit hours of course work and maintain this average as long as enrolled. To be eligible to enter a degree program, the student must maintain a minimum of a 2.75 grade-point average on all course work taken since admission as a graduate student.

Reclassification

1. Provisional to Regular

a. The provisions of a student's provisional status must be specified in the letter of admission.

b. To be reclassified as a regular student, a student must meet the provisions stated in the letter of admission and achieve a minimum grade-point average of 2.75 on all course work taken during the provisional period. Individual degree programs may set higher grade-point average requirements.

c. No later than the completion of the 18th credit hour, a unit must review the student's record and make a final decision on the student's admission. A student who has met the provisions of admission and achieved the required grade-point average will be reclassified as a regular student. A student who fails to meet the provisions of admission or who fails to achieve the required grade-point average will be suspended, but may be reinstated in order to transfer to another program or to non-degree status. The academic unit must notify the student and the Office of Admissions and Records of its decision.

d. Upon notification by the appropriate academic unit, the Office of Admissions and Records will prohibit the registration of all provisional graduate students who have reached the maximum of 18 credit hours. Registration will not be permitted until the student is reclassified as a regular student, an exception is granted by an academic dean, or the student is transferred.

e. A student may be admitted as a provisional graduate student more than one time, but not by the same graduate program.

f. All credit hours taken since admission as a provisional graduate student or to be applied to a degree count in the 18 credit-hour limit, i.e.,

undergraduate or graduate credit, P/F, S/U, graded courses, credit by senior petition, and transfer credit.

2. *Regular or Provisional to Non-Degree*

a. Regular and provisional students may become non-degree students by choice. This includes students who fail to meet admission or academic standards or who withdraw voluntarily.

b. To change a student to non-degree status, the adviser must process a Graduate Studies Transfer/Status form through the Medical Center Graduate Programs Office.

3. *Non-Degree to Regular or Provisional*

a. Non-degree students who later wish to become degree students must transfer and present all the credentials required by the degree program. This requires the processing of a Graduate Studies Transfer/Status form by the student's adviser through the Medical Center Graduate Programs Office.

b. For admission to a degree program, a non-degree student must have achieved a minimum grade-point average of 2.75 on all course work taken since admission as a graduate student.

Graduate Record and Other Examinations

Many programs at WVU require Graduate Record Examination (GRE) scores from all applicants, but in no program are they the sole criterion for admission. Some programs require both the general aptitude and the appropriate advanced test before considering an applicant for admission. All departments in the School of Medicine require that a student take the GRE test. The School of Pharmacy requires a student have the GRE.

Admission of International Students

International students wishing to enroll for graduate work at WVU must comply with the academic requirements for admission which have already been stated and with certain additional academic and nonacademic requirements as follows:

Early Inquiry and Application

International applicants should forward a letter of inquiry one year before the intended time of beginning study in the United States.

English Proficiency

All international applicants, the language of whose family and schooling was other than English, must present a composite score of at least 550 on the "Test of English As a Foreign Language" (TOEFL).

Credentials

See the *WVU Graduate Catalog*.

Intrauniversity Transfers

To transfer from on school/department to another a student may initiate a transfer request by contacting the Medical Center Graduate Programs Office or his/her adviser. The adviser must contact the Medical Center Graduate Programs Office which will complete transfer.

Credit Limitations

General

Credit toward a graduate degree may be obtained only for courses listed in the *Graduate Catalog*, and numbered 200-499, in which the grade earned is A, B, C, or S. No course in which the grade earned is D, P, F, or U can be counted toward a graduate degree.

Employed Graduate Students

Graduate students will be required by their advisers to limit their credit loads in proportion to the outside service rendered and the time available for graduate study. In general, persons in full-time service to the University, or other employer, will be advised to enroll for no more than 6 hours of work in any one semester and those in half-time service for no more than 12 hours. Maximum credit loads may be less for employed graduate students in some academic colleges, schools, and departments.

Non-Degree Graduate Students

A non-degree graduate student may accumulate unlimited graduate credit hours, but if the student is later admitted to a degree program, the faculty of that program will decide whether or not any credit earned as a non-degree student may be applied to the degree. Under no circumstances may a non-degree student apply more than 12 hours of credit toward a degree.

Transfer Credit

A student wishing to apply credit earned at another institution of higher education to a master's degree at WVU must obtain the standardized permission form from their department. This form requires the signature of the student's unit chairperson or designate. The student must also have an official transcript from the other institution sent to the Office of Admissions and Records. Only credit earned at institutions accredited at the graduate level may be transferred.

Graduate courses taken elsewhere will not be approved for transfer credit unless written approval was secured before enrolling in them. At the time the written approval is given, a copy of approval must be sent to the Medical Center Graduate Programs Office.

A maximum of 12 semester hours from other institutions will be accepted for credit at WVU in master's degree programs requiring 30 to 41 semester hours. Eighteen (18) semester hours will be accepted for master's degree programs requiring 42 or more semester hours. Individual graduate programs may accept fewer credit hours.

Completed permission forms are to be returned to the Medical Center Graduate Programs Office.

Time Limits

Master's Degree

All requirements for a master's degree must be completed within 8 years preceding the student's graduation.

Doctorate

The doctorate is a research or performance degree and does not depend on the accumulation of credit hours. The three requirements of the degree are admission to candidacy, residency, and completion and defense of the dissertation. The degree signifies that the holder has the competence to function independently at the highest level of endeavor in the chosen profession. Hence, the number of years involved in attaining or retaining competency cannot be readily specified. Rather, it is important that the doctoral student's competency be assessed and verified in a reasonable period of time prior to conferral of the degree.

The qualifying examination is the method of assessing whether the student has attained sufficient knowledge of the discipline and supporting fields in order to undertake independent research or practice. It is expected that the examination will occur after all course work has been completed and language or other requirements satisfied, and it consists of a series of examinations covering all areas specified in the plan of study. After the component parts of the qualifying examination have been successfully passed, the student is admitted to candidacy for the degree. It is sometimes called the candidacy examination because no one can be called a doctoral candidate until this first requirement for the degree has been met.

Because the qualifying examination attests to the academic competence of the student who is about to become an independent researcher or practitioner, the examination should not precede the degree by too long a period of time. Consequently, doctoral candidates are allowed no more than 5 years in which to complete remaining degree requirements. In the event a student fails to complete the doctorate within 5 years after admission to candidacy, an extension of time can be obtained only by repeating the qualifying examination, and meeting any other requirements specified by the student's committee.

Contractual Nature of Graduate Study

The student's rights, privileges, obligations, and responsibilities are contained in the *Graduate Catalog*, the plan of study, and, if research is one of the degree program requirements, the prospectus. Although not contracts in the formal legal sense, they are agreements between the University and a student for the accomplishment of planned educational goals.

Plan of Study

Submit within the first academic year (18 hours for a master's and 30 hours for doctorate/after thesis committee for Nursing) to the Medical Center Graduate Programs Office.

The plan of study is subject to approval and is made a part of the student's record. It then becomes a formal agreement between student and program faculty as to the conditions which must be met for completion of the degree requirements. Any subsequent changes in plan of study (or prospectus) can be made only through mutual agreement.

Records in Medical Center Graduate Programs Office

The Medical Center Graduate Programs Office maintains all records for monitoring student progress and for certifying students for graduation. Among these records are: (1) plans of study (subject to chairperson of Medical

Center Graduate Council's approval); (2) graduate committees (subject to school dean's or designate's approval and approval of the Medical Center Graduate Programs Office); (3) grades; (4) grade modifications, etc.

Grading

Pass/Fail grading is not applicable to the course work for a graduate degree. A graduate student may register for any course (1-499) on a Pass/Fail basis only if the course involved is not included in the student's plan of study and does not count toward a graduate degree. The selection of a course for Pass/Fail grading must be made at registration and may not be changed after the close of the registration period. A student who, having taken a course on a Pass/Fail basis, later decides to include the course as part of a degree program must re-register for the course on a graded (A, B, C, D, or F) basis.

Incompletes

The grade of I is given when the instructor believes the course work is unavoidably incomplete or that a supplementary examination is justifiable. The grade of I must be removed within one academic year or made a permanent incomplete. Grade modification forms are to be signed by the instructor of the course, dean of the school of the course, and then brought to the Medical Center Graduate Programs Office for processing.

Grade changes other than I to a letter grade must be accompanied by an explanatory memo.

Theses and Dissertations

Procedural Rules

See the *West Virginia University Graduate Catalog*.

Students' Committees

Number of Committee Members

Doctoral dissertation committees will consist of no fewer than five members, the majority of which will be regular graduate faculty including the chairperson. No more than one person may be a non-member.

Master's committees of programs requiring a thesis will consist of no fewer than three members, the majority of which will be regular graduate faculty including the chairperson. No more than one person may be a non-member.

Master's committees of programs not requiring a thesis will consist of no fewer than three members, one of which must be a regular graduate faculty member. No more than one person may be a non-member, and the non-member cannot chair or advise.

Committee approval must be obtained prior to the second semester for a master's degree and prior to the fourth semester for the doctorate. Committee approval for the nursing program is after the third semester.

Committee approval forms are submitted to the Medical Center Graduate Programs Office.

Committee Approval

All graduate committees are subject to the approval of the school dean or designate and the Medical Center Graduate Programs Office.

Medical Center Basic Sciences— Programs and Courses of Instruction

The Departments of Anatomy, Biochemistry, Microbiology, Pharmacology and Toxicology, and Physiology offer individual graduate programs leading to the M.S. and Ph.D. degrees and provide courses for students of medicine, dentistry, pharmacy, nursing, and other allied health professions.

(Detailed information concerning graduate studies academic information is presented in the *WVU Graduate Catalog*.)

Anatomy

The Department of Anatomy offers graduate programs which are committed to the training of competent researchers and capable teachers. This is accomplished by the completion of a carefully designed plan of study tailored to the individual student's interests. The program begins with instruction in basic morphological, developmental, and functional aspects of human anatomy. Additional related course work and electives are required. These selected courses strengthen the area of interest of the student. The student then conducts an original research project which culminates in a dissertation (Ph.D.) or a thesis (M.S.).

Admission Requirements

In addition to the admission procedure of the University, the Department of Anatomy requests that each applicant complete a departmental application form obtained from the department. After an application is favorably reviewed by the departmental Graduate Studies Committee, applicants are invited for a personal interview whenever practical. The applicant is admitted by a majority vote of the departmental Graduate Faculty.

It is recommended that the following courses be completed before entering the graduate program: algebra, trigonometry, general physics, inorganic and organic chemistry, general biology or zoology, comparative anatomy, embryology, genetics, cell biology or general physiology, and two years of French, German, or Russian. At the discretion of the department, a student may be allowed to complete a limited number of prerequisites after enrolling in the program. A grade-point average above 3.0 is desirable. The aptitude portion and an advanced section of the Graduate Record Examination are generally required. Also, three letters of recommendation from persons who can best evaluate the applicant's potential for graduate study should either accompany the application or be mailed to the Department of Anatomy separately. Applicants desiring consideration for financial aid should complete the application process before January 15.

Doctor of Philosophy

The first year of study usually consists of required course work within the Department of Anatomy. These courses include gross anatomy, micro-anatomy, neurobiology, introduction to research, and seminar in anatomy. Required courses in other basic medical sciences, such as biochemistry and physiology, are usually taken in the second year. Twelve hours of additional graduate-level courses are also required. These requirements will have been satisfied when the student earns a grade of at least B in each of the courses

taken in the Department of Anatomy and has maintained a required 2.75 overall grade-point average.

To be admitted to candidacy for the Ph.D. degree the student must satisfy the above requirements, pass a written and oral comprehensive preliminary examination, and prepare a plan for a research project to be undertaken for the dissertation. To be recommended for the Ph.D. degree each student must complete a dissertation based on original research and defend the dissertation at an oral examination.

This program allows flexibility for each student. The precise plan of study is designed by the student and an Advisory Committee, which is composed of faculty members selected by the student.

The student often culminates the training period with presentations at regional and/or national scientific meetings.

Master of Science

The master's program in anatomy is offered as a terminal degree only for students in certain specialized fields, such as physical therapy or in a conjoint program in dentistry or medicine. It is not necessary for the student to complete the M.S. degree in order to qualify for admission into the Ph.D. program, although the student may elect to complete the requirements for this degree in progress toward the Ph.D.

An applicant who shows a special need for the M.S. degree must generally be as well qualified as applicants for the doctoral program. The M.S. student must complete courses in gross anatomy and microanatomy and 6 to 9 hours of required and elective courses. A 2.75 grade-point average must be maintained. In addition to course work, the student must complete a thesis based on original research and defend the thesis at an oral comprehensive examination.

Research and Instruction

Research Areas—**Gross Anatomy:** Anatomical variations and anomalies, and electromyographic studies of specific muscle groups. **Microscopic Anatomy:** Studies of cells, tissues, and organs, under normal and experimental conditions with *in vivo* microscopic, histochemical, electron microscopic, autoradiographic, and fluorescent techniques. **Developmental Anatomy:** Experimental and descriptive embryology, cellular differentiation, and dedifferentiation, regeneration and the effects of drugs and other environmental agents on development. **Neuroanatomy:** Experimental, comparative, and embryological studies of specific nerve cell groups and nerve pathways in the spinal cord, brain stem, cerebellum, and cerebrum.

Anatomy (Anat.)

101. *Principles of Human Anatomy.* (For paramedical students only.) I. 3-4 hr. PR: Biol. 2 or equiv.; consent of instructor or chairperson. Lectures and demonstrations on the gross and microscopic anatomy of the human body including development.
102. *Gross Anatomy.* (For physical therapy students.) II. 3 hr. PR: Anat. 101 and/or consent of instructor or chairperson. Functional gross anatomy of the back, extremities, head, and neck.
109. *Oral Histology.* (For dental hygiene students.) II. 3 hr. PR: Consent of instructor or chairperson. Histological structure and embryological development of the teeth, tissues, and organs of the oral cavity.

152. *Introduction to Physical Anthropology*. II. 3 hr. PR: Consent of instructor or chairperson. Man's physical heritage (human evolution) in principle and through paleontology, man's current physical nature (race and ecology), and biologic basis of man's culture. (Same as *Sociology and Anthropology* 152.)
301. *Gross and Developmental Anatomy: Trunk*. (For medical and a limited number of regular full-time graduate students in the medical basic sciences.) I. 5 hr. PR: Medical student standing or consent of chairperson. Gross anatomical study of the back, thorax, abdomen, pelvis, and perineum emphasizing clinically-related concepts.
302. *Gross and Developmental Anatomy: Head-Neck*. (For medical and a limited number of regular full-time graduate students in the medical basic sciences.) I. 3 hr. PR: Medical student standing or consent of chairperson. Gross anatomical study of the head and neck emphasizing clinically-related concepts.
304. *Gross and Developmental Anatomy: Extremities*. (For medical students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 2 hr. PR: Medical student standing or consent of chairperson. Gross anatomical and developmental study of the upper and lower limbs emphasizing clinically-related concepts.
305. *Microanatomy*. (For medical students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 5 hr. PR: Medical student standing or consent of chairperson. Cells, tissues, and organs.
306. *Gross Anatomy of the Trunk and Extremities*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 4 hr. PR: Dental student standing or consent of instructor or chairperson. Gross anatomical study of the back, upper extremities, thorax, abdomen, and pelvis.
307. *Gross Anatomy of the Head and Neck and Neuroanatomy*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 5 hr. PR: Dental student standing or consent of instructor or chairperson. Gross anatomical study of the head and neck and a brief gross and microscopic anatomical study of the central nervous system.
308. *Neuroanatomy*. (For students in physical therapy and a limited number of regular full-time graduate students in the medical basic sciences, and students in other health sciences.) II. 2 hr. PR: Consent of instructor or chairperson. Gross and microscopic structure of the central nervous system.
309. *Microanatomy and Organology*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 5 hr. PR: Dental student standing or consent of chairperson. Cells, tissues, and organs.
312. *Special Topics in Anatomy*. I, II. 2-4 hr. per sem. PR: Anat. 301 or 306; and Anat. 305 or 309; consent of chairperson. Different topics of current interest in anatomy that are not included in the regular graduate courses.
314. *Applied Anatomy*. I, II. 2-6 hr. per sem. PR: Consent of instructor or chairperson. Detailed study of anatomy adapted to the needs of the individual student.
315. *Craniofacial Osteology and Myology*. II. 3 hr. PR: Dental, medical, or graduate student standing or consent of instructor. Study of craniofacial embryology, morphology, and physiology with special emphasis on articulations and their clinical applications.
316. *Craniofacial Growth and Maturation*. II. 3 hr. PR: Anat. 315 or consent of instructor. The current concepts of craniofacial growth and maturation are presented and integrated for application to clinical problems.
318. *Oral Histology and Embryology*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 2 hr. PR: Dental student standing or consent of instructor or chairperson. Structure, function, and development of oral tissues.

375. *Neurobiology*. (For medical and limited number of regular full-time graduate students in the medical basic sciences.) II. 6 hr. PR: Anat. 301 and Physi. 345, or consent. Anatomy and physiology of the nervous system correlated with clinical neurology. (See also CC MD 375—*Neurobiology*.)
401. *Advanced Gross Anatomy*. I, II. 2-6 hr. per sem. PR: Anat. 301, 302, 304, or 306, 307 and consent of instructor or chairperson. Morphological and functional analysis of a selected region, with dissection.
402. *Advanced Developmental Anatomy*. II. 2-4 hr. per sem. PR: Anat. 301, 302, 304, and consent of instructor or chairperson. Detailed developmental anatomy of the fetal period and infancy. With dissections and analysis of variations and malformations. (Course will not be offered in 1986-87.)
403. *Seminar*. I, II. 1-6 hr. (1 hr. per sem.) (Course may be repeated.) PR: Consent of Graduate Committee. Special topics of current or historical interest.
405. *Experimental Embryology*. II. (Alternate Years.) 3 hr. PR: Embryology and cellular physiology or biochemistry and consent of instructor or chairperson. Development, differentiation, and regeneration. (Course will not be offered in 1986-87.)
406. *Advanced Neuroanatomy*. I. 2-4 hr. per sem. (Course may be repeated.) PR: CC MD 375 and consent of instructor or chairperson. Detailed study of selected areas of the nervous system.
408. *Histochemistry*. II. (Alternate Years.) 3 hr. PR: Anat. 305 or 309, biochemistry, and consent of instructor or chairperson. Histochemical theory and techniques.
451. *Advanced Microanatomy*. I, II, or S. 2-4 hr. PR: Anat. 305 or 309, or Biol. 263 and consent of instructor or chairperson. An extension of the major topics included in Anat. 305 or 309. Special emphasis on recent contributions.
491. *Advanced Anatomy*. I, II. 2-8 hr. PR: Consent of chairperson.
497. *Research*. I, II, S. 1-15 hr. PR: Consent of Graduate Committee. (May be repeated as needed with consent of Graduate Studies Committee.)

Biochemistry

Graduate programs in the Department of Biochemistry are designed to assist students in the development of their own capabilities for independent thought and research. All students are provided with a strong biochemistry background; however, the program has sufficient flexibility to allow individual students to select advanced specialty courses in biochemistry which are of particular importance to their career goals. Faculty research problems are of current interest and are diverse, reflecting the broad spectrum of areas encompassing biochemistry.

Admission Requirements

A prospective graduate student should hold a bachelor's degree with a science major and should have successfully completed courses in qualitative-quantitative chemical analysis, organic chemistry, calculus, physics, and physical chemistry. In some cases, a deficiency in the above may be made up after admission into the program.

Application is made by submission of the following items to the Department of Biochemistry: (a) the completed departmental application form (sent on request); (b) three letters of recommendation from professors who can evaluate the student's present abilities and potential; (c) official transcript of the applicant's college grades; and (d) official copy of Graduate Record Examination scores. Owing to the sequence of courses, entrance in the fall is preferred, but exceptions may be made as necessary. Application

material and program details may be obtained by writing: The Graduate Coordinator, Department of Biochemistry, School of Medicine, West Virginia University, Morgantown, WV 26506. The deadline for receipt of applications and supporting documents by the department is June 1; to be considered for financial support, applications should be submitted much earlier, preferably by February 1.

Doctor of Philosophy

To assure that all students become familiar with the basic principles of biochemistry, the first year of the Doctor of Philosophy (Ph.D.) program is devoted primarily to course work. In addition to formal courses during the first semester, students participate in a laboratory program which involves all faculty members. This laboratory experience is designed to illustrate the basic research skills involved in biochemistry. During the second semester, students will undertake research in at least two laboratories of their choice. During the second year, the students are also given monthly cumulative examinations, designed to assure the faculty that the students are developing a working knowledge of the field of biochemistry appropriate to a doctoral candidate. Students are required to pass 16 of 24 cumulative examination questions during this period to fulfill the written examination requirement for the Ph.D.

Upon successful completion of the first year, students will choose a dissertation research adviser, at which time emphasis will be placed on research. During the second year, specialized courses in biochemistry will be offered as the students continue their research programs. During subsequent years, the students emphasize independent thesis research, and a few formal courses are taken.

An essential component of the Ph.D. program is participation in departmental journal clubs and seminars. Both students and faculty participate, thus students learn to effectively organize and present research material to a large group of people.

Completion of the Ph.D. program is realized when the student successfully presents the research results to both the Department of Biochemistry and a graduate advisory committee. Typically, four years are required to realize this goal.

Master of Science

The Department of Biochemistry offers the thesis master's degree. This program involves completion of a master's research project in addition to formal course work. The program for this degree is essentially identical to that for the Ph.D. program; however, only 6 of 12 cumulative examination questions must be passed, and thesis-level research completed.

Research and Instruction

Research Areas—Hormonal regulation of metabolism. Structure and function of nucleic acids. Chemistry of enzymes and serum proteins. Structure of connective tissue. Nutritional oncology. Secretory mechanisms. Biogenesis of membranes. Regulation of gene expression.

Biochemistry (Bioch.)

139. *Introduction to Biochemistry*. I. 4-5 hr. PR: General chemistry. (For medical technology and pharmacy students; others by consent.) Lecture and conference, 4 hr.; Laboratory/demonstration, 1 hr.

192. *Selected Topics in Biochemical Research*. I, II, S. 1-6 hr. (May be repeated for a maximum of 12 hr.) PR: Consent.
231. *General Biochemistry*. I. 7 hr. PR: General chemistry, organic chemistry. (For medical students; others by consent.) Consists of seven main lectures, one clinical correlation lecture and one problem session per week.
239. *Clinical Chemical Techniques*. II. 4 hr. PR: Bioch. 139, 231 or equiv. (Primarily for medical technology students; open to other qualified students by consent.)
305. *General Biochemistry*. II. 4 hr. PR: Inorganic chemistry, organic chemistry, and consent. (For dental and graduate students.) Lecture, conference, and demonstration.
- 310 / 312. *General Biochemistry*. (Offered in conjunction with the Department of Agricultural Biochemistry.) I, II. 4 hr. per sem. PR: General chemistry, organic chemistry. (For graduate students in basic sciences programs.)
399. *Special Topics*. I, II. 1-2 hr. PR: Consent.
491. *Advanced Study*. I, II. 3 hr. PR: Consent. Physical techniques in biochemistry; nucleic acids; enzymology and protein chemistry; metabolic regulation (each topic—one semester; offered alternate years). Designed primarily to provide a background for students who will do research in biochemistry and molecular biology. (*Metabolic Regulation*—Fall, 1986; *Enzymology*—Spring, 1987.)
496. *Graduate Seminar*. I, II. 1 hr. PR: Consent. Presentation and discussion of special topics.
497. *Research*. I, II, S. 1-15 hr. PR: Consent.

Conjoined Basic Sciences Courses

In the curricula of the School of Medicine, certain courses are conducted on nondepartmental or interdepartmental lines. These have been designed as Conjoined Courses.

Conjoined Basic Sciences Courses (CC MD)

320. *Electron Microscopy*. II. 2-4 hr. PR: Consent. (For graduate students, upperclass students in the sciences, medical students.) Interdisciplinary. Introduction to cell fine structure and function. Preparation of biological specimens for electron microscopy.
350. *Radiation Safety and Isotope Usage*. II. 1-2 hr. PR: Phys. 1 and 2, Chem. 15 and 16 or consent. Chemical, physical, and biological aspects of radiation; safety; handling and storage of radioactive materials; ERDA (formerly AEC) and WVU regulations and licensing; detection and instrumentation, research, and clinical use of radioisotopes.
370. *Medical Genetics*. II. 2-4 hr. PR: Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as Gen. 370, Med. 370, Pedia. 370.)
375. *Neurobiology*. (For medical and a limited number of regular, full-time graduate students in the medical basic sciences.) II. 6 hr. PR: Anat. 301 and Physi. 345, or consent. Anatomy and physiology of the nervous system correlated with clinical neurology.
399. *Selective Experiences in Medicine*. (Fourth Year.) I, II, S. CR. PR: Satisfactory completion of the first three years of medical curriculum. (*Graded as S or U*.) The selective program for fourth-year medical students offers a wide range of opportunities in the basic sciences, medical specialties and sub-specialties, in family medicine, and in community medicine. The year is composed of eleven 4-week blocks. Six must be spent at the WVU Medical Center in Morgantown and

approved programs at the Charleston Division, WVU Medical Center; the Wheeling Division, School of Medicine; and the Veterans Administration Hospital, Clarksburg. The remainder may be spent at community hospitals in West Virginia, or at university or university-affiliated hospitals out-of-state. Each student plans the individual program, with faculty advice. Flexibility is permitted. With consent of the instructors concerned, the student may, during the year, alter the selective choices. The student must give five weeks' notice before changing an intramural or extramural selection. *(See intramural and extramural folders, published annually, that describe the selective opportunities.)*

Microbiology

The Department of Microbiology offers programs of study leading to the degrees of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in Medical Microbiology. The basic philosophy of the department is that the students have a strong foundation in basic concepts of microbiology and flexibility in choosing advanced course work in their specific areas of interest. The students are given extensive training in microbiological research methodology. The overall aim of the program is to produce students capable of teaching microbiology and designing and doing independent research in microbiology.

Admission Requirements

Applicants must have had at least four upper-level courses in the biological sciences, two semesters of organic chemistry, two semesters of physics, and a strong background in mathematics—including calculus—in order to be considered for admission. Applicants must submit to the Department of Microbiology a departmental application form, three letters of recommendation, and Graduate Record Examination (GRE) scores—both aptitude and advanced. In addition, transcripts and an official application for admission must be sent directly to the WVU Office of Admissions and Records, P.O. Box 6009, Morgantown, WV 26506-6009. Applicants for admission to a degree program should have a grade-point average of 3.0, or better, and a score of 600 or above on each of the GRE examinations. Early application is encouraged. Applicants desiring financial aid should complete their application before January 1. All applications must be completed by June 1 for fall admission. Applications for admission in the spring semester must be completed by November 1.

Program Requirements

Master of Science (M.S.)

Every student must take courses or demonstrate proficiency by examination in each of the following areas: M. Bio. 310 (Structure and Activities of Microorganisms), M. Bio. 317 (Special Problems in Basic Immunology). At least 3 hours of credit in one or more of the following M. Bio. 491 courses must be completed: Genetics, Immunobiology, Microbial Physiology (including laboratory). The student must also enroll in M. Bio. 391—Advanced Topics. Two semesters of biochemistry are required. The remainder of the course work is selected by the student and the advisory committee from the following courses: M. Bio. 301, 327 or from any of the M. Bio. Advanced Study courses (M. Bio. 491). M. Bio. 496—Seminar is a required course each semester the student is in residence. All full-time students in the Department of Microbiology are required to participate in teaching at least one semester a year.

The Master of Science program requires 30 hours course work of which at least 20 hours must be in microbiology. Six hours must be in research (M. Bio. 397). A thesis representing original research and a final oral examination are required. A grade-point average of at least 3.0 must be maintained. In general, two years are needed to complete the M.S. program.

Doctor of Philosophy (Ph.D.)

The Doctor of Philosophy candidate must demonstrate knowledge in microbiology and biochemistry equivalent to that of an M.S. student. In addition, appropriate course work as determined by the student's research advisory committee with a grade-point average of 3.0 is required. Where appropriate, course work in related subjects such as computer science, physical chemistry, and statistics will be required. M. Bio. 496—Seminar is a required course each semester that the student is in residence. The Doctor of Philosophy program requires a dissertation representing the results of an original research investigation and passing of qualifying and final oral examinations. All full-time students are required to participate in teaching at least one semester a year. Three years are usually needed to complete the Ph.D. program.

Other

The Department of Microbiology has informal noon-hour journal clubs in immunology and in microbiology. All students are expected to participate in one or more.

For additional information write to the Chairperson, Department of Microbiology, WVU Medical Center, Morgantown, WV 26506.

Research and Instruction

Research Areas—Pathogenic Bacteriology: mode of action of microbial products in pathogenicity; identification and classification of anaerobic microorganisms including filamentous bacteria; oral microbiology; ecology of the oral cavity; clinical microbiology. Mycology: pathobiology of medical mycoses; environmental health implications of fungal and algal toxicoses. Physiology: nutrition and metabolism of a variety of pathogenic microorganisms; growth and protein synthesis in obligate intracellular bacteria. Genetics: basic studies on the mechanisms of genetics including transfer of genetic information; recombinant DNA studies. DNA probes for/and sequencing of aminoglycoside genes. Virology: development of rapid viral diagnostic test, cytomegalovirus molecular genetics; bacteriophage-host interactions. Parasitology: host-parasite relationships between helminth parasites and insects and vertebrate hosts; endosymbionts in protozoa. Immunology: immunopathology of pulmonary disease; inflammatory response to inhaled organisms; and developmental aspects of immunity. Other programs: detection of environmental pollutants; effect of environmental agents on host resistance.

Microbiology (M. Bio.)

- 26. *Microbiology*. (For students in nursing-dental hygiene programs.) I. 4 hr. PR: Chem. 11, 12 or equiv.
- 220. *Microbiology*. (For pharmacy students.) II. 4 hr. PR or Conc.: Biochemistry. Pathogenic microorganisms, including immunology and antimicrobial agents.

223. *Microbiology*. (For medical technology students; graduate students with consent.) II. 5 hr. PR or Conc.: Organic chemistry. Basic microbiology. Emphasis on immunology, pathogenic microorganisms, and clinical laboratory techniques.
224. *Parasitology*. (For medical technology students.) II. 4 hr. Study of animal parasites and disease vectors with emphasis on disease manifestations, parasite biology, and laboratory diagnosis.
301. *Microbiology*. (For medical students only.) I. 5-7 hr. PR: Organic chemistry, biochemistry. Detailed study of pathogenic microorganisms. Emphasis on use of microbiology in solving clinical problems.
302. *Microbiology*. (For dental students only.) I. 5 hr. PR: Organic chemistry. Detailed study of pathogenic microorganisms. Emphasis on oral flora.
310. *Structure and Activities of Microorganisms*. I. 2 hr. PR or Conc: Biochemistry; consent. Structure and function of microbes.
317. *Special Problems in Microbiology*. I, II, S. 1-7 hr. per sem.
 - A. *Special Problems in Basic Immunology*. I. 2 hr. PR or Conc.: M. Bio. 310; biochemistry; consent.
 - B. *Special Problems in Microbiology*. I, II, S. VR. PR: Consent.
327. *Parasitology*. (For graduate students.) II. 4 hr. PR: Consent. Study of animal parasites and disease vectors with emphasis on disease manifestations, parasite biology, laboratory diagnosis, and current concepts in parasitological research.
391. *Advanced Topics*. I. 3 hr. PR: Consent. Assigned study to develop research laboratory techniques. (Graded as S or U.)
397. *Master's Degree Research or Thesis*. I, II, S. 1-15 hr. PR: M. Bio. 310, 317A, 391. Students may enroll more than once. (Graded as S or U.)
490. *Teaching Practicum*. I and II. 1-3 hr. PR: Consent. Supervised practices in college teaching of microbiology. (Graded as S or U.)
491. *Advanced Study*.
 - Pathogenic Virology*. I. 3 hr. PR: M. Bio. 310 and 317A or equiv., consent. Pathogenesis of medically important viruses and mechanisms for their control.
 - Pathogenic Bacteriology*. I. 3 hr. PR: M. Bio. 310, 317A or equiv., consent. Pathogenic bacteriology, with an emphasis on the mechanisms of pathogenesis. Topics include microbial adherence, toxin production and mechanisms, and normal flora and disease. (Course will not be offered in 1986-87.)
 - Clinical Laboratory Bacteriology*. I, II. VR. PR: M. Bio. 310, 317A or equiv., consent. Lectures on the identification of pathogenic microorganisms with an emphasis on bacteria. Laboratory includes a rotation through the hospital clinical microbiology laboratory. Limited enrollment. (Graded as S or U.)
 - Microbial Genetics*. I. 4 hr. PR: M. Bio. 310 or equiv., consent. Molecular aspects of mutation, gene transfer mechanisms, genetic mapping, and genetic control using bacteria and bacteriophage systems as models. (Course will not be offered in 1986-87.)
 - Microbial Metabolism*. II. 2 hr. PR: M. Bio. 310, biochemistry, consent. Physiology, metabolism, and regulation of representative microbial groups.
 - Microbial Metabolism Laboratory*. II. 1 hr. Open to departmental graduate students only. Research techniques in metabolic regulation.
 - Immunobiology*. II. 2 hr. PR: M. Bio. 317A or equiv., consent. Discussion of the biological and cellular aspects of immunology. Immunobiology, immunopathology, and cellular immunology receive strong emphasis. (This course is designed to complement Bioch. 423.) (Course will not be offered in 1986-87.)
 - Medical Mycology*. I. 4 hr. PR: Consent. Advanced study of the fungi of medical importance, including the pathobiology of mycoses and toxicoses.

Tumor Virology. II. 3 hr. PR: Biol. 315 or equiv., consent. A consideration of the molecular and biochemical aspects of viruses which cause tumors and the mechanisms by which they cause cellular transformation. (Course will not be offered in 1986-87.)

Clinical Laboratory Virology. S. 3 hr. per 6-week session. PR: M. Bio. 491 (Pathogenic Virology) or equiv.; consent. Lectures and laboratories on isolation of viruses from clinical specimens. Includes serological methods.

496. *Seminar*. I, II. 1 hr. PR: M. Bio. 310 or equiv. (Graded as S or U.)

497. *Ph.D. Research or Dissertation*. I, II, S. 1-15 hr. Students may enroll more than once. (Graded as S or U.)

Pathology

Research Areas—Atherosclerosis; thrombosis; platelet aggregation and functions with correlative ultrastructural study, lipid and lipoprotein metabolism in cultured human endothelial cells; morphometric (including electron microscopic) and biochemical studies on the progression of atherosclerotic lesions in humans; regression of experimental atherosclerotic lesions; ultrastructural aspects of renal disease; ultrastructural reflections of dedifferentiation in neoplasia; histogenesis of neoplasia; biomedical application of laboratory medicine; and applied laboratory studies in microbiology.

Pathology (Path.)

128. *Introduction to Basic Pathology*. I. 2 hr. PR: Enrollment in dental hygiene or physical therapy, or consent. A study of the basic pathologic processes in man.

129. *Introduction to Oral Pathology*. II. 3 hr. PR: Path. 128, dental hygiene major, or consent. Application of fundamental knowledge of general pathology to pathological conditions that occur in the oral cavity.

328. *Basic Pathology*. (For dental students and graduate students, with consent.) II. 5 hr. PR: Anat. 309. General changes in basic pathologic processes and changes evoked in specific organ systems as a basis for understanding clinical disease.

338. *Oral Pathology 1*. II, S. 3 hr. PR: Path. 328, or consent. Clinical, radiographic, and microscopic discussion of local and systemic diseases affecting oral and paraoral structures.

350. *Hematology*. 3 hr. (For certain graduate students, with consent of the chairperson.) Includes morphologic description of formed elements of blood including classification of red blood cell, white blood cell, and platelet disorders. Case material and slide reviews are integral parts of the course work.

351. *Pathology and Laboratory Medicine 1*. (For medical students and limited number of regular full-time graduate students in medical basic sciences and consent of the chairperson.) I. 8 hr. PR: Medicine I Curriculum. Presents pathology as a body of knowledge and a discipline, including laboratory aspects of disease. General pathology, including cell injury, inflammation, neoplasia, thrombosis and circulatory disturbances, is followed by a systemic approach to disease states.

352. *Pathology and Laboratory Medicine 2*. (For medical students and limited number of regular full-time graduate students in medical basic sciences and consent of the chairperson.) II. 7 hr. PR: Path. 351. Continuation of Path. 351.

353. *Oral Pathology 2*. I. 2 hr. PR: Path. 338; consent. Continuation of Path. 338.

355. *Oral Disease Diagnosis and Management*. (For dental students, third year.) II. 1 hr. PR: Path. 338, 353, consent. Oral and systemic diseases are presented clinically, radiographically, and histologically. Diagnosis is established and treatment arrived at through group discussion.

- 356. *Advanced Pathology*. I, II. 3 hr. PR: Path. 328 or 351; consent. Microscopic and gross specimens from selected autopsies.
- 382. *Oral Histopathology*. I, II. 1-2 hr. PR: Path. 338, 353, consent. Microscopic study of head and neck lesions.
- 401. *Special Studies in Oral Pathology*. I, II. 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.
- 491. *Advanced Study*. 1-3 hr. PR: Consent. Specialized study in subspecialty, such as blood banking, clinical chemistry, immunopathology. (*Special lectures and/or seminar.*)
- 497. *Research*. I, II. 1-15 hr. PR: Consent.

Pharmacology and Toxicology

Pharmacology and Toxicology involve all aspects of the action of drugs on living systems and their constituent parts. These range from the chemical reactions taking place within cells to the evaluation of a drug in the treatment of human disease. The Department of Pharmacology and Toxicology offers graduate studies leading to the degrees of Master of Science and Doctor of Philosophy, with research concentrations in such areas as autonomic pharmacology, biochemical pharmacology, neuropharmacology, psychopharmacology, molecular pharmacology, cardiovascular pharmacology, endocrine pharmacology, pharmacogenetics, malarial chemotherapy, immunotoxicology, and renal, hepatic, and pulmonary toxicology.

Admission Requirements

Regular applicants for the graduate program in pharmacology and toxicology should present, as a minimum, the following undergraduate courses: one semester of biology; two semesters of physics; one semester of calculus; five semesters of chemistry including two semesters of organic chemistry and one semester of physical chemistry. Reading knowledge of at least one foreign language is strongly recommended. Three letters of recommendation from science professors, an official transcript, and the results of the Graduate Record Examination—including the advanced test in either chemistry or biology—are also required. The prospective student should have a minimum 3.0 overall grade-point average at the undergraduate level.

In general, students requesting financial support should have all credentials forwarded by February 1. For additional information write: Director of Graduate Studies, Department of Pharmacology and Toxicology, WVU Medical Center, Morgantown, WV 26506.

Master of Science

Ordinarily the department does not accept graduate students solely into a master's program. However, the master's degree is offered and is available as an intermediate degree en route to the Ph.D. Its primary function, as viewed by the faculty, is as an aid to the student new to research for the formulation, conduct, and writing of an abbreviated, but complete, independent research project (thesis). The course work requirements for the M.S. in pharmacology and toxicology usually consist of Physiology 342, 344, and 345, Biochemistry 231, Statistics 311, Pharmacology and Toxicology 361, 363, 364, 461, 462, and 497. Most students may, with the faculty's concurrence, choose to proceed directly with their doctoral research without a master's degree. These students must submit a comprehensive progress report on their research in lieu of a thesis.

Doctor of Philosophy

Before official admission to candidacy for the doctorate, the student must satisfactorily complete a grant writing exercise, an acceptable progress report, and an oral comprehensive qualifying examination. When a student has submitted a grant proposal, a committee—ordinarily consisting of at least three members of the Department of Pharmacology and Toxicology and two members from outside the department—is appointed and constitutes the oral examining body. The oral qualifying examination will be administered in January of the student's third year in the program.

Dissertation

Upon admission to candidacy for the degree of Doctor of Philosophy, the candidate must select a topic for the dissertation under the direction of the candidate's adviser, complete a dissertation that makes a contribution to knowledge in the candidate's area of concentration, and pass an oral examination based primarily upon the dissertation. After successful completion of the oral examination and submission of the final copy of the dissertation, the candidate will be recommended for the degree.

Research and Instruction

Research Areas — Autonomic pharmacology: Autonomic regulation of the cardiovascular system and of smooth muscle; sensitivity to autonomic drugs; electrophysiologic studies of cardiac and smooth muscle; synthesis, storage, release, and metabolism of transmitters and adrenal medullary hormones. Chemotherapy: Antimalarial agents, anticancer agents, effects of pharmacological agents on single cell organisms. Biochemical pharmacology: Drug metabolism, effects of drugs on lipid and nucleic acid metabolism. Endocrine pharmacology: Mechanism of action of steroids, metabolism of sex accessory tissues, relationship of hormones to tumor growth and development. Neuroparmacology: Biochemical basis of epilepsy, mechanism of action of anticonvulsant drugs, neuromediators in the central nervous system. Toxicology: Metabolism of toxic agents, pulmonary toxicology, renal toxicology, immunotoxicology, and environmental toxicology, perinatal pharmacology and toxicology. Electron microscopy: Effects of drugs on the ultrastructure of cells.

Pharmacology and Toxicology (Pcol.)

160. *Pharmacology*. (For undergraduate students in the paramedical sciences.) II. 3 hr. Interactions of clinically useful therapeutic agents with the mammalian system.
243. *Pharmacology for Pharmacy Students*. I. 4 hr. PR: Completion of first year in Pharmacy; approval of course director. Principles, pharmacodynamic actions, and therapeutic applications of clinically useful drugs.
360. *Pharmacology and Therapeutics*. (For dental and graduate students.) I. 4 hr. PR: Dental student standing or consent. Lecture and demonstrations on pharmacological actions and therapeutic uses of drugs.
361. *Pharmacology*. (For medical students and a limited number of regular, full-time graduate students in medical basic sciences departments.) II. 6 hr. PR: Consent of department chairperson. Lecture-conference-laboratory on principles, pharmacodynamic actions, and therapeutic applications of clinically useful drugs.
362. *Occupational Toxicology*. II. 3 hr. PR: Consent. General principles of toxicology with special emphasis on occupational health. Classes of chemicals which pose problems in the work place will be emphasized.

363. *Toxicology*. I. 3-4 hr. (Variable credit, majors enroll for 4 hr.; non-majors for 3 hr.) PR: Consent. Theoretical concepts and general principles of toxicology with special emphasis on molecular mechanisms of toxicity. (3-4 hr. lec.)
364. *Advanced Pharmacology*. I. (Alternate Years.) 1-5 hr. PR: Pcol. 361 or consent. Advanced lectures and discussion of general principles of pharmacology and toxicology and advanced lectures in biochemical, endocrine, pulmonary, and cardiovascular pharmacology (1-5 hr. lec.) (Offered every second year; next offering 1986-87.)
365. *Advanced Pharmacology*. I. 1-4 hr. PR: Pcol. 361 or consent. Advanced lectures and discussion of specialized areas of pharmacology and toxicology including renal, endocrine, pulmonary, and cardiovascular pharmacology. (Offered every third year; next offering 1986-87.)
367. *Advanced Neuropharmacology*. I. 1-5 hr. PR: Pcol. 361 or consent. Advanced lectures and discussion on drug receptor theory, neurophysiological aspects of pharmacology, supersensitivity, and the actions of drugs on the central and peripheral nervous system. (1-5 hr. lec.) (Offered every second year; next offering 1987-88.)
461. *Seminar in Pharmacology*. I, II. 1 hr. per sem. PR: Pcol. 361 or graduate status in basic medical sciences.
462. *Literature Survey*. I, II. 1 hr. per sem. PR: Graduate status in pharmacology and toxicology. Current literature pertinent to pharmacology and toxicology including journals of allied biological sciences.
490. *Teaching Practicum*. I, II. 1-2 hr. per sem. PR: Pcol. 361 and consent. (For advanced graduate students.) Critical evaluation of preparation and delivery of lectures in specified areas of pharmacology and toxicology.
497. *Research*. I, II, S. 1-15 hr. per sem.

Physiology

The Ph.D. program is designed to produce physiologists of high quality, capable of conducting independent research and being effective teachers. Students in our department are exposed to all aspects of physiology and a variety of related sciences. Our graduates, as a result of this rigorous training, may pursue careers in any area of physiology, and can interact creatively with scientists in related fields. The master's program is designed as an introduction to research in physiology for students interested in, but not yet committed to, a research career. Students in this program receive training in the fundamentals of physiology and experience in a research laboratory.

Admission Requirements

Applicants should have a strong background in biology and/or chemistry. In addition to a basic biology course, it is strongly recommended that applicants have taken cellular or molecular biology and an introductory physiology course; a course on comparative anatomy also provides particularly useful background information. Inorganic and organic chemistry are basic requirements, while physical chemistry is recommended, but not required. Finally, as several areas of physiology require an understanding of the fundamentals of calculus and physics, introductory courses on these subjects are also essential.

The department requires the following materials for consideration for the M.S. or Ph.D. program: Three letters of recommendation, transcripts of all undergraduate and graduate grades, a completed departmental application form, and Graduate Record Examination scores (aptitude and one advanced

test). A bachelor's degree or equivalent is required for admission; an M.S. degree is not a prerequisite for the Ph.D. program.

A complete application kit and detailed descriptions of the degree programs may be obtained by writing to the Graduate Adviser, Department of Physiology, West Virginia University School of Medicine, Morgantown, WV 26506. Although applications may be submitted as late as May of the year of matriculation, applications must be received before February 1 to be considered for financial aid.

Master of Science

Prerequisites for admission to the master's program are the same as those for the doctoral program. The first two semesters are devoted largely to course work in physiology (12 hours of Graduate Physiology, 4 hours of Neurophysiology, and 4 hours of Physiological Methods). Students are also introduced to the research interests of the faculty through the graduate colloquium and rotations in each faculty member's laboratory. At the end of the second semester, students pick a thesis adviser and begin work in that laboratory during the summer. The second year is spent primarily on research for and writing of the master's thesis. Students are required to take 2 hours of Advanced Physiology and present two research seminars during the year.

Doctor of Philosophy

The first year curriculum familiarizes the student with the basic information and principles that form a background for advanced work in physiology. Much of this overlaps with the basic science material presented to medical students so that all students attend several medical school courses, including biochemistry and neurophysiology. Much of the first year is devoted to graduate physiology (6 hours/semester). This course is based upon lectures in medical physiology, supplemented with conference sessions that introduce students to current literature. Finally, students lacking a statistical background are expected to take a basic statistics course.

In addition to this course work, students are introduced to the research interests of the physiology faculty through the graduate colloquium and rotations in each faculty member's laboratory. The latter are designed to help students choose a thesis adviser by exposing them to the experimental approaches and techniques used in different laboratories within the department.

During the first summer, students are expected to begin research projects in a departmental research laboratory of their choice. This allows a student to explore an area of research interest, and to develop a working relationship with a faculty member, without a firm commitment to pursue a thesis project in that laboratory.

During the second year the student combines course work with the continuing development of research interests. A graduate adviser is selected during this year. Courses include: Advanced Physiology (12 hours), Physiological Methods (4 hours), Graduate Colloquium (2 hours), Graduate Seminar (1 hour), and a Teaching Practicum.

The second-year curriculum takes the student beyond the medical curriculum, emphasizing critical appraisal of the current research literature. In addition, the student begins to develop his/her teaching skills. The purposes of the graduate colloquium and seminar are twofold. First, they give students an opportunity to become informed of the latest scientific advances.

Secondly students have an opportunity to develop and practice presentation of research seminars. In addition to presentations by faculty and students from the Department of Physiology, faculty members from other departments at WVU and from other institutions are invited to present seminars in the program.

After successful completion of the second academic year, the student takes a two-part qualifying examination. The qualifying examination consists of a comprehensive written examination covering all of the major areas of physiology, followed by a written and oral research design examination. Upon successful completion of the qualifying examination, the student is admitted to candidacy for the degree of Doctor of Philosophy.

During the third and fourth years the student may enroll in elective courses. Yearly participation in the teaching practicum provides additional experience in delivering lectures to undergraduate and professional students. However, the student's major effort is directed toward dissertation research. Results of this effort are presented annually in the graduate colloquium. During these years the student will attend and present papers at national meetings of scientific societies (e.g., American Physiological Society, Biophysical Society, Endocrine Society, Federation of American Societies for Experimental Biology, Society for Neurosciences). The Ph.D. degree generally can be completed in four years.

Research and Instruction

Research Areas—Faculty laboratories offer opportunities for research in cardiovascular, cell, endocrine, gastrointestinal, muscle, neural, renal, and respiratory physiology.

Physiology (Physi.)

141. *Elementary Physiology*. (For undergraduate students in paramedical sciences.) II. 4 hr. PR: College biology and chemistry, or consent. Systematic presentation of basic concepts. 3 lec., 1 lab.
241. *Mechanisms of Body Function*. I. 4 hr. PR: College chemistry, biology, physics, and algebra or graduate status and approval. A systematic examination of the homeostatic functions of the human body with emphasis on the physicochemical mechanisms involved. Pathophysiology and clinical correlations are introduced in relation to normal physiology.
248. *Experimental Design*. (For advanced undergraduate and selected graduate students.) II. 3 hr. PR: Consent. Theory and practical experience in design of experiments and processing of physiological data using small laboratory digital computers. 1 lec., 2 lab.
341. *Physiological Methods* 1. II. 1-5 hr. PR: Consent. Research techniques and strategies for physiology.
342. *Physiological Methods* 2. I. 1-4 hr. PR: Consent. Research techniques and strategies for physiology.
343. *Fundamentals of Physiology*. (For dental students and a limited number of regular full-time graduate students in medical center basic sciences departments.) I. 5 hr. PR: College physics, algebra, chemistry, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems and their control. 3 lec., 1 conf., 1 lab.
344. *Medical Physiology* 1. (For medical and a limited number of regular full-time graduate students in medical center basic sciences departments.) I. 5 hr. PR: College physics, algebra, chemistry, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems, and their control, with clinical correlations. 5 lec., 1 conf.-lab.

345. *Medical Physiology 2.* (For medical and a limited number of regular full-time graduate students in medical center basic sciences departments.) II. 5 hr. PR: Physi. 344 and consent of department chairperson. Continuation of Physi. 344. 5 lec., 1 conf.-lab.
346. *Neurophysiology.* (For graduate students in medical center basic sciences departments and a limited number of regular full-time graduate students.) II. 1-4 hr. PR: Math. 3 or 141, Phys. 1 and 2 or consent of department chairperson. Properties of excitable tissues (nerve and muscle), synaptic transmission, reflexes and central nervous system function, and behavior. 1-3 lec., 1 conf.
350. *Graduate Physiology 1.* (For graduate students in the medical center basic sciences departments and a limited number of other regular full-time graduate students.) I. 6 hr. PR: Calculus, college physics, organic chemistry, biology, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems, and their control.
351. *Graduate Physiology 2.* (For graduate students in the medical center basic sciences departments and a limited number of other regular full-time graduate students.) II. 6 hr. PR: Physi. 344 or 350 and consent of department chairperson. Continuation of Physi. 350.
399. *Special Topics.* I, II, S. 1-4 hr. PR: Consent. Assigned study designed to develop research skills.
444. *Graduate Seminar.* I, II. 2 hr. PR: Graduate standing and consent. (*Graded as S or U.*)
490. *Teaching Practicum.* I, II. 1-3 hr. PR: Consent. Supervised practices in college teaching of physiology. (*Graded as S or U.*)
491. *Advanced Physiology.* I, II, S. 1-15 hr. PR: Consent. Lecture-conference in: cellular physiology, neurophysiology, circulation, respiration, acid-base and renal physiology, digestion and energy metabolism, and endocrinology. 3 lec., 3 conf.
497. *Research in Physiology.* I, II, S. 1-15 hr.
498. *Thesis.* I, II, S. 2-4 hr. PR: Consent. (*Graded as S or U.*)
499. *Graduate Colloquium.* I, II. 1 hr. PR: Consent. (*Graded as S or U.*)

School of Dentistry

The School of Dentistry was established by an act of the West Virginia Legislature on March 9, 1951, and the first class began studies in September, 1957. The 23 members of that class were graduated in 1961, receiving the first dental degrees awarded in West Virginia. More than 200 students are now enrolled in the accredited dental program. In September, 1961, the first students were enrolled in the school's degree program in dental hygiene and were graduated in 1965.

The profession of dentistry offers many career opportunities. In addition to the general practice of dentistry, specialty practice areas may be pursued by further study. The fields of dental education and research provide the opportunity for satisfying and interesting careers. Dental auxiliary careers such as dental hygiene may be pursued. Men and women entering the dental health care delivery system find that they play an important role in the exciting and challenging world of the modern health sciences.

The School of Dentistry of West Virginia University offers programs of education leading to the degrees of Doctor of Dental Surgery, Master of Science with majors in Endodontics and Orthodontics, and Bachelor of Science in Dental Hygiene. One oral surgery internship and three oral surgery residencies are offered by the Department of Oral Surgery. Programs leading to the Master of Science and Doctor of Philosophy degrees are available in the associated basic sciences. Seven general practice residencies are offered by the School of Dentistry, University Hospital, and the Charleston Area Medical Center. Continuing education courses for dentists and auxiliaries are offered throughout the year on a wide variety of dental topics.

Administration of the School of Dentistry is the responsibility of the Dean. He is aided in this function by four associate deans and the clinical and medical center basic sciences chairpersons. This administrative group, the Faculty Council, serves in an advisory capacity to the Dean in carrying out the established policies of the School of Dentistry and of the University.

Doctor of Dental Surgery Program (D.D.S.)

The School of Dentistry offers a program of education leading to the degree of Doctor of Dental Surgery (D.D.S.). The requirements for admission and the curriculum conform to the standards established by the American Dental Association Commission on Dental Accreditation.

Admission

Application for admission in the Fall of 1987 should be made promptly upon completion of the 1985-86 school year, even if the applicant has not completed all the requirements as listed.

The School of Dentistry participates in the American Association of Dental Schools Application Service (AADSAS). All applications are processed by that organization. Application request cards are available at the Office of Admissions and Records, 1170 Basic Sciences Building, WVU Medical Center, Morgantown, WV 26506. Request cards should be submitted to AADSAS as promptly as possible. The deadline for submission of a completed AADSAS application to the AADSAS office, for admission to the West Virginia University School of Dentistry in the Fall of 1987, is November 1, 1986. This deadline is deliberately and explicitly discussed in the AADSAS instruction

booklet and thus should be reviewed carefully by the applicant. Since deadline dates are so important, you are strongly urged to give this part of the application procedure your strict attention.

Because of the large number of applicants and limited openings available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Nonresident applicants should have a grade-point average of 3.0 or above and an average score on the Academic and PMAT sections of the Dental Admission Test of at least 4-4. Economically or culturally disadvantaged students (especially if they are West Virginia residents) are encouraged to apply.

Each applicant is required to satisfactorily complete the Dental Admission Test. It is suggested that the test be taken in April, before making application in June, for admission in the fall. This test is given at testing centers throughout the United States and its possessions, and in Canada. Application cards may be secured by writing to: Division of Testing, Council on Dental Education, 211 E. Chicago Ave., Chicago, IL 60611.

Applicants for admission must present evidence of having successfully completed three or more academic years of work in liberal arts in an accredited college. The prerequisite courses should include:

	<i>Sem. Hr.</i>
English Composition and Rhetoric, or equivalent	6
Zoology or Biology (with laboratory)	8
Inorganic Chemistry (with laboratory)	8
Organic Chemistry (with laboratory)	8
Physics (with laboratory)	8

Courses in comparative anatomy, embryology, and biochemistry are strongly recommended. In addition, courses in the humanities and the social sciences are suggested in order to acquire a broadened intellectual background for both the study and practice of dentistry.

All applications are reviewed and those most qualified are invited to appear for a personal interview. The Committee on Admissions will advise the applicants of the time and place of the interview.

Admission to the WVU School of Dentistry is contingent upon satisfactory completion of all admission requirements as stated above, appropriate completion of all application instructions, submission of all transcripts from each college attended, personal interview, and satisfactory completion of all courses taken before the time of registration in dental school (includes courses taken during the summer session immediately preceding admission enrollment).

Final acceptance of a student is contingent upon satisfactory completion of all requirements.

Promotion

At the end of each grading period (i.e., each academic semester or session) all students will have their individual progress reviewed by the academic standards committee convened for their class. The progress of each student in the curriculum is governed by a set of minimum acceptable performance standards upon which the academic standards committee bases its decisions.

The standards consist of three categories: (1) scholastic performance; (2) clinic utilization; and (3) professional development. Scholastic performance requires that each student must earn a specified grade-point average to be

promoted to the succeeding year. Clinic utilization requires that each student must utilize a specified competency. Professional development is an important component of the study of dentistry. The criteria for determining this development are based on the student's personal behavior and patient management.

These performance standards are explained in detail in the "Curriculum and Academic Standards Statement for the WVU School of Dentistry." All first-year students are presented this statement prior to entering school and are required to acknowledge by their signature that they have read and accepted the conditions set by the material contained therein.

At the completion of each academic term, following the Committee on Academic Standards meetings, the status of each student is reported to the Dean and Faculty Council. The committee may recommend that a student be promoted unconditionally, be promoted on probation, be allowed to make up deficiencies, be given the opportunity to repeat the year, be suspended or dismissed from further studies in the School of Dentistry. Final disposition in each case is the prerogative of the appropriate Committee on Academic Standards and the Dean.

Requirements for the Degree (D.D.S.)

Candidates for graduation are recommended by the faculty of the School of Dentistry to the Board of Regents for its approval and for the conferring of the degree of Doctor of Dental Surgery (D.D.S.), provided they fully meet the following conditions:

1. Shall have been in regular attendance in the School of Dentistry for the academic period prescribed for each student.
2. Shall have completed the prescribed curriculum for each of the academic sessions.
3. Shall have shown good moral character and shall have demonstrated a sense of professional responsibility in the performance of all assignments as a student.
4. Shall have met in full all financial obligations to the University.

In view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of the University the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

Attendance at the spring Commencement is voluntary. If you don't plan to attend, leave the complete mailing address to where you want your diploma mailed at the Dean's Office.

Curriculum

The School of Dentistry recognizes its obligation to produce professionals capable of meeting the dental health needs of society and providing leadership for the dental profession. Therefore, the school offers a four-year program leading to the degree of Doctor of Dental Surgery (D.D.S.) that provides students with a learning environment in which to develop the technical competence, intellectual capacity, and professional responsibility necessary to meet the dental health needs of a society in a state of constant transformation. In order to insure the achievement of these goals, the dental curriculum is continually reviewed and revised.

SCHOOL OF DENTISTRY CURRICULUM PLAN

First Year (1,200 hr.)	Summer Session (320 hr.)	Second Year (1,200 hr.)	Summer Session (320 hr.)	Third Year (1,200 hr.)	Summer Session (320 hr.)	Fourth Year (1,200 hr.)
Basic Biologic Science	Basic Dental Science	Basic Biologic Science	Basic Dental Science	Basic Biologic Science	Bio-Clin. Sci. Comm. Dent.	Selected Didactics Electives and Clinical Dentistry
			Bio-Clinical Sciences	Bio- Clinical Sciences	Clinical Dentistry	
			Comm.Dent.			
			Clinical Dentistry			
	Unsched.	Comm. Dent.				
	Basic Dental Science		Unsched.			
				Clinical Dentistry		
Unsched.						
		Basic Dental Science			Bio- Clinical Sciences	
Bio-Clinical Sciences	Comm. Dent.	Clinical Dentistry				
Comm. Dent.						
Clinical Dentistry						
Unscheduled Time						
Unscheduled Time	Unscheduled Time	Unscheduled Time	Unscheduled Time	Unscheduled Time		

The basic required courses in the curriculum are presented throughout the first seven semesters and two eight-week summer sessions. During this time all students are enrolled in courses designed primarily to prepare them for the general practice of dentistry. Throughout the program overall student progress is continually monitored by the Committee on Academic Standards. Upon satisfactory completion of the first semester of the third year, the student is provided the opportunity to indicate a specific interest in a fourth-year curriculum track. Available tracks are the general practice track, basic biologic science track, and specific clinical interest track. Upon satisfactory completion of the second semester of the third year, the faculty adviser and the student prepare a specific individualized curriculum for the fourth year. This aspect of the dental curriculum provides the opportunity for the student to pursue areas of special interest through the appropriate track, while continuing to develop competency in all clinical disciplines. In addition to the required courses, fourth-year students are required to register for at least 3 hours of electives during each semester enrolled.

At the present time, a number of state boards of dentistry require evidence of participation in continuing education for license renewal. In addition, a significant number of state associations require similar evidence for continued membership in good standing. Consequently, fourth-year electives provide the opportunity for students to pursue areas of special interest and, at the same time, they serve as a means of encouraging students to continue their education throughout their professional careers.

The individualized curriculum developed by the student and faculty adviser must be approved by the Curriculum Committee Chairperson and the Associate Dean for Academic Affairs. The student will pursue the approved curriculum through completion of the D.D.S. program.

Additional requirements include participation in mock board examinations by fourth-year students and three weeks of remote-site training by all students. Furthermore, students must satisfactorily complete all courses that are attempted.

Outstanding students, having accumulated grade-point averages of 3.0 or above, having developed competency in all clinical disciplines, and having met all other requirements, are eligible for consideration for graduation at the end of term I of the fourth year.

Dental Clinic

Clinical training and experience constitute a major part of the curriculum for dental and dental hygiene students. Facilities for dental and dental hygiene students include 160 treatment cubicles and all necessary related laboratories. Patients are accepted for treatment if their dental problems are of teaching value and if a student is available for assignment. The student assigned to each patient must work under close supervision of a faculty member. The clinic program provides practical experience for the student and renders a much needed service to several thousand patients annually.

Books and Instruments

Dental students are required to obtain necessary textbooks for the scheduled courses and special instruments for use in the various laboratories and clinics. Lists of approved instruments and books will be provided at the time of registration, and these supplies will be made available through University services. Official authorization is essential in the purchase of all

instruments and books used in dental courses. All dental students must maintain a library of required textbooks through graduation. Used books, instruments, and equipment are not acceptable.

Organizations

American Student Dental Association. Predoctoral and advanced education dental students are eligible to become members of the American Student Dental Association. Membership provides for student membership in the American Dental Association.

American Association of Dental Schools. All dental and auxiliary students, including advanced education students, are eligible to become student members of the American Association of Dental Schools during the period of enrollment in the School of Dentistry.

WVU School of Dentistry Alumni Association. In a series of meetings held during May, 1961, the first senior class of the School of Dentistry established the WVU School of Dentistry Alumni Association. The association promotes the educational program of the School of dentistry. Full membership is extended to all graduates of the school, and associate memberships are available to others interested in the aims of the association.

Omicron Kappa Upsilon. On February 6, 1961, the Alpha Beta Chapter of the Omicron Kappa Upsilon, national honorary dental society, was chartered at the School of Dentistry. Student membership is limited to 12 percent of each senior class. Candidates are selected from the academically superior 20 percent.

Dental Fraternities. Chapters of three national dental fraternities were organized and established in 1962. First formal initiation ceremonies were conducted on February 9, 1962, by Beta Theta Chapter of Xi Psi Phi and Chi Chi Chapter of Delta Sigma Delta, and on February 10, 1962, by Sigma Chapter of Psi Omega. Membership in each fraternity is limited by an established class quota. Individual eligibility is based upon an accumulated 2.0 average.

Courses of Instruction in Dentistry (Dent.)

Each course is designated by the name of the department teaching it, its number and title, the semester in which it is offered, and hours of credit. Generally, those courses given in the first year are numbered 300-324; second year, 325-349; third year, 350-374; and fourth year, 375-399. Elective opportunities are offered to students during the fourth year of study. (See courses 394 and 397.) Other University courses may be taken with the approval of the student's adviser and the Associate Dean for Instruction.

Community Dentistry

Professor McCutcheon (*Chairperson*) and Thompson; Adjunct Associate Professor Murphy; Associate Professors Ingersoll, Meckstroth, and Wilson; Assistant Professor Dice; Clinical Instructors Broughton, Kuhn, Shelton, N. Taylor, and Wallace.

320. *Community Dentistry. II. 1 hr.* Fundamentals of statistical analysis and the scientific method necessary to the understanding of dental research.
326. *Community Dentistry. II. 2 hr.* A course covering the principles of human behavior and their application to understanding patient problems, patient management, and dentist-patient communication.

330. *Community Dentistry*. I. 1 hr. Lectures provide the student with a basic knowledge of the principles of dental public health practice. Emphasis on dental epidemiology and preventive dentistry at the community level.
352. *Community Dentistry*. Yr. 2 hr. Seminars, proseminars, and field experience in selected topics of professional communication, health education, and the sociology and psychology of community health.
394. *Community Dentistry*. I, II. 1-15 hr. Field experience in various aspects of community health.

Dental Anatomy and Occlusion

Associate Professors Foor, Crout, Rodeffer, N. Smith, and VandenBosche; Assistant Professor Stewart; Instructor Estep; Clinical Associate Professor Queen; Clinical Assistant Professor W. Taylor.

310. *Dental Anatomy and Occlusion*. Yr. 6 hr. Anatomy of individual teeth, both permanent and primary, in regard to form and function and their static and dynamic occlusal relationships.
331. *Occlusion*. S. 2 hr. PR: Consent. Didactic and clinic/laboratory instruction in the basic techniques and procedures associated with the treatment of conditions related to faulty occlusion.
351. *Occlusion*. II. 1 hr. PR: Consent. Advanced study of the science of occlusion with particular attention to its impact on the clinical diagnosis and treatment of occlusal disorders.

Dental Materials

Professor Overberger; Associate Professors Hart, Roth, and VandenBosche.

312. *Dental Materials*. I. 3 hr. Composition, physical, chemical, mechanical, and manipulative properties, and technical uses of dental restorative materials as related to dentistry.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Dental Practice Management

Professors Puderbaugh (*Chairperson*) and Cady; Associate Professors Hickman and Walker; Instructor Estep.

325. *Practice Management*. II. 1 hr. A lecture course designed to prepare dental students in the concepts of four-handed dentistry.
354. *Practice Management*. II. 1 hr. PR: Departmental consent. Lectures covering the origin and development of dentistry. (1 hr. lec.)
371. *Practice Management*. I. 2 hr. PR: Dent. 325. A lecture series on the fundamentals of practice management, including the organization and development of the practice, personnel and financial management, and the introduction to TEAM dentistry.
372. *Practice Management*. II. 1 hr. (Ethics.) Lectures and discussion on the principles of ethics applied to dental practice.
373. *Practice Management*. II. 1 hr. (Jurisprudence.) Lectures on the fundamental legal rights, obligations, and responsibilities of the dentist.
375. *Practice Management*. Yr. and S. 1-3 hr. PR: Consent. Clinical practice using auxiliaries, including those trained in expanded functions.

Endodontics

Professors Alberico, Biddington, Griffin, and Skidmore (*Chairperson*); Associate Professor Balaban; Assistant Professor D. Taylor; Instructor D. Blanc.

321. *Endodontics*. S. 2 hr. Preclinical lectures and laboratory exercises on basic technical and biological requisites in the treatment of diseases of the dental pulp and the periapical tissues.
362. *Endodontics*. I. 1 hr. Lectures on rationale, diagnosis, prevention, and nonsurgical and surgical treatment of diseases of the dental pulp and their sequelae.
380. *Endodontics*. Yr. and S. 1-4 hr. Clinical endodontic instruction in order to develop the skills and judgment necessary to treat diseases of the dental pulp and their sequelae.
390. *Clinical Endodontics*. I, II, S. 1-5 hr. (May be repeated for credit.) PR: Graduate of an accredited dental school and admission to the Advanced Education Program in Endodontics or consent. Clinical endodontic practice in the areas of: ordinary endodontic cases, complex endodontic cases, hemisection, root amputation, replantation, transplantation, endodontic implantation, vital pulp therapy, apexification, and bleaching.
391. *Endodontic Theory*. I, II, S. 2 hr. PR: Consent. Provides seminar discussions in the topics of: basic endodontic techniques, advanced endodontic techniques, endodontic literature review, case presentation, and advanced endodontic theory.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Hospital Dentistry

- Professor Welch (*Chairperson*); Associate Professor Bakos; Assistant Professor Marshall; Clinical Associate Professors Christian and Cogan; Clinical Assistant Professors Black, Collins, Gilbert, Haddox, Haley, Hancock, Jackfert, McCutcheon, Mott, Rosenfeld, Satzer, Skaff, Syner, Vargo, Wilkerson, and Wine; Clinical Instructors Brace, Coffman, Courtney, Fogan, Farris, Ivey, Klein, Kuyk, Lee, Payne, and Wilbourn.
333. *Physical Diagnosis*. II. 1 hr. Lectures and demonstrations procedures involved in performing a physical examination and in understanding the hospital medical chart from the standpoint of history, physical examination, laboratory, and x-ray examination data.
 347. *Management of Medical/Dental Emergencies*. II. 1 hr. Assessment and treatment of the medical risk patient as related to the practice of dentistry. CPR instruction included.
 349. *Hospital Dentistry*. S. 1 hr. Hospital protocol and hospital dentistry as related to various dental disciplines. Students will be assigned a one-week hospital rotation where they are involved in care of the hospitalized dental patient.
 374. *Principles of Medicine*. I. 2 hr. General diseases about which the dental student should have intelligent working knowledge. Students are assigned to specific hospitalized patients to review their findings with the class.
 395. *Hospital Dentistry Practicum*. I, II, S. 1-15 hr. Hospital experience (remote site) in the various aspects of care of the hospitalized dental patient. Provides continuation of experiences gained in Dent. 349.

Operative Dentistry

- Professor Sausen (*Chairperson*); Associate Professors Bridgeman, Chapman, Foor, Frye, Gladwin, Hart, Jackson, Naylor, Rodeffer, F. Stevens, J. Stevens, and Vanden-Bosche; Assistant Professor Kelly; Instructor Bennett.
304. *Operative Dentistry*. II. 4 hr. Preclinical course in principles of cavity preparation, manipulation of plastic restorative materials, and related instrumentation. Characteristics and treatment of caries emphasized.
 322. *Operative Dentistry*. S. 2 hr. Preclinical course to include a variety of cavity forms and their restoration with compacted golds. Preparation is made for entering clinical activity. Certain fundamentals of pedodontics introduced.

329. *Operative Dentistry*. I. 2 hr. Lectures relate to standard clinical procedures and to laboratory instruction in direct and indirect cast gold restorations.
348. *Operative Dentistry*. S. 1 hr. Cavity medications, biological reactions to restorative materials and techniques, bur technology, and clinical variations of cavity form and treatment. Treatment planning procedure is reviewed and examined.
358. *Operative Dentistry*. II. 1 hr. More complex and advanced techniques for clinical practice with emphasis on new developments throughout the scope of operative dentistry.
383. *Operative Dentistry*. Yr. and S. 2-8 hr. Instruction in the clinic setting includes comprehensive diagnosis and treatment planning, computer assisted records, plaque control, caries control, and single tooth restorations. Sufficient variety and depth of experience occurs to obtain competence for independent practice of operative dentistry.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Oral Diagnosis and Radiology

Professors Graham (*Chairperson*), Bowers, Pifer, and H. Smith; Associate Professor Fotos.

303. *Oral Diagnostic Techniques*. II. 2 hr. Lectures and laboratory exercises introduce and stress fundamental principles of oral diagnosis including patient health history and clinical examination methods. Intraoral radiography. General approach to treatment planning for comprehensive health care.
323. *Clinic Orientation*. S. 1 hr. Series of specially arranged lectures, demonstrations, and clinical exercises to orient student to clinical procedures in the clinical disciplines.
327. *Oral Radiology*. I. 1 hr. The physical and biological phenomena associated with x-radiation. Intraoral and extraoral techniques presented and instruction in interpretation of roentgenograms, with special emphasis relative to oral diagnosis.
337. *Oral Diagnosis*. II. 1 hr. Didactic instruction with further application of diagnosis procedures presented in Dent. 303, extended to include special examination procedures and technics applicable to evaluating clinical problems.
387. *Clinical Oral Diagnosis*. Yr. and S. 1-3 hr. PR: Consent. Clinical application of principles presented in Dent. 303 and 337, providing opportunities for observation and analysis of clinical problems.
396. *Clinical Oral Radiology*. Yr. and S. 1-3 hr. Clinical application of principles presented in Dent. 303 and 327 with additional instruction in techniques and interpretation of radiographs with special emphasis to role played in oral diagnosis.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Oral Pathology

Professor Bouquot (*Chairperson*) and Associate Professor Keyes.

328. *General Pathology*. (For dental and graduate students.) II. 5 hr. PR: Consent. The broad spectrum of human diseases is studied at the clinical, physiological, and biochemical levels.
338. *Oral Pathology*. (For dental students.) II. and S. 3 hr. PR: Consent; Path. 328. Application of knowledge gained in general pathology to study specific diseases affecting the oral cavity.
353. *Oral Pathology*. (For dental students.) I. 2 hr. PR: Consent; Dent. 338. Continuation of Dent. 338.
355. *Clinico-Pathologic Correlation Conference*. (For dental students.) II. 1 hr. PR: Consent; Dent. 338, 353. Interesting oral lesions are demonstrated clinically,

radiographically, and histologically. Diagnosis is established and treatment discussed by faculty and students.

- 382. *Advanced Oral Histopathology*. (For dental and graduate students, residents, and interns.) I and II. 1 hr. PR: Consent; Dent. 338, 353. An elective seminar stressing the significant microscopic features and diagnosis of various oral lesions.
- 397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.
- 401. *Special Studies in Oral Pathology*. (For dental and graduate students, residents, and interns.) I. 1-3 hr. PR: Consent. Advanced study of local or systemic disease processes affecting oral structures through seminars, assignment of specific topics, or research activities.

Oral and Maxillofacial Surgery

Professor Emeritus Campbell; Professor Graves (*Chairperson*); Assistant Professor Lattanzi; Clinical Professor Poindexter; Clinical Associate Professors Clayman, Davidson, and Fogarty; Clinical Assistant Professors Carson, Douglas, Farrar, John, King, Linkous, and Oliverio; Clinical Instructor Lindsay.

- 300. *Anesthesiology*. II and S. 1 hr. Lectures on local anesthesia, including types, modes of action, indications, and contraindications for use. Premedication, toxic effects, and technics of administration are discussed.
- 339. *Oral Surgery*. II. 1 hr. Didactic instruction in basic surgical principles as applied to the extraction of teeth and dentoalveolar surgery.
- 359. *Oral Surgery*. I and II. 2 hr. PR: Consent. Didactic instruction in patient evaluation, complicated exodontia, preprosthetic surgery, diagnosis, surgical and adjunctive treatment of disease, injuries, and defects of human jaws and associated structures.
- 364. *Pain and Anxiety Control*. I. 1 hr. PR: Consent. Instruction in the psychology, physiology, and clinical techniques of controlling pain and anxiety in the dental patient.
- 384. *Oral Surgery*. Yr. and S. 1-3 hr. PR: Consent. Clinical instruction in outpatient and inpatient oral surgery necessary to provide comprehensive care for the dental patient.
- 397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.
- 400. *Advanced Oral Surgery*. I, II, S. 1-12 hr. PR: Consent. Advanced study of therapeutics, hospital protocol, and surgical aspects of oral surgery involving lectures, seminars, demonstrations, and clinical applications.

Orthodontics

Associate Professors Bernard (*Chairperson*) and Dempsey; Assistant Professors Kitchin, Martin, Valentine, and Wilfong.

- 345. *Principles of Orthodontics*. II. 1 hr. Facial growth and development, the development of dental occlusion, and etiology and classification of malocclusions.
- 346. *Orthodontic Technics*. S. 1 hr. Technical instruction in taking diagnostic records and constructing basic orthodontic appliances.
- 365. *Orthodontics*. II. 1 hr. Introduction to clinical orthodontics; lectures on case analysis, treatment planning, and clinical procedures involved in interceptive, preventive, and adjunctive treatment of malocclusions.
- 385. *Orthodontics*. Yr. and S. 1-3 hr. Clinical management of selected malocclusion problems.
- 397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

SCHOOL OF DENTISTRY COURSE SCHEDULE

First Year—Didactic Courses	Credit Hours	1st Sem.	2nd Sem.	S.
300 — Anesthesiology	1			X
303 — Oral Diagnostic Techniques	2		X	
304 — Operative Dentistry	4		X	
305 — General Biochemistry	4		X	
306 — Gross Anatomy of the Trunk and Extremities	4	X		
307 — Gross Anatomy of Head & Neck & Neuroanatomy	5		X	
309 — Microanatomy and Organology	4	X		
310 — Dental Anatomy and Occlusion	6	X	X	
311 — Periodontics	1			X
312 — Dental Materials	3	X		
313 — Removable Prosthodontics	3	X		
314 — Fixed Prosthodontics	1			X
315 — Periodontics	2		X	
316 — Removable Prosthodontics	1			X
317 — Removable Prosthodontics	1		X	
318 — Oral Histology and Embryology	2		X	
319 — Pediatric Dentistry	1		X	
320 — Community Dentistry	1	X		
321 — Endodontics	2			X
322 — Operative Dentistry	2			X
323 — Clinic Orientation	1			X
Second Year—Didactic Courses				
302 — Microbiology	5	X		
325 — Practice Management	1		X	
327 — Oral Radiology	1	X		
328 — General Pathology	5		X	
329 — Operative Dentistry	2	X		
330 — Community Dentistry	1	X		
331 — Dental Anatomy and Occlusion	2			X
332 — Community Dentistry	1		X	
333 — Physical Diagnosis	1		X	
334 — Removable Prosthodontics	3	X	X	
335 — Pediatric Dentistry	2	X	X	
336 — Fixed Prosthodontics	6	X	X	
337 — Oral Diagnosis	1		X	
338 — Oral Pathology	3		X	X
339 — Oral Surgery	1		X	
340 — Periodontics	1	X		
341 — Removable Prosthodontics	2			X
342 — Periodontics	1	X		
343 — Fundamentals of Physiology	5	X		
345 — Principles of Orthodontics	1		X	
346 — Orthodontic Technics	1			X
347 — Management of Medical/Dental Emergencies	1			X
348 — Operative Dentistry	1			X
349 — Hospital Dentistry	1			X
Second Year—Clinical Courses				
375 — Dental Practice Management	1-3		X	X
376 — Removable Prosthodontics	2-6		X	X
377 — Periodontics	1-4		X	X
380 — Endodontics	1-4		X	X
383 — Operative Dentistry	2-8		X	X
384 — Oral Surgery	1-3		X	X
386 — Pediatric Dentistry	1-5		X	X
387 — Clinical Oral Diagnosis	1-3		X	X
389 — Fixed Prosthodontics	2-6		X	X
396 — Clinical Oral Radiology	1-3		X	X

SCHOOL OF DENTISTRY COURSE SCHEDULE (Continued)

	Credit Hours	1st Sem.	2nd Sem.	S.
Third Year—Didactic Courses				
326 — Community Dentistry	2		x	
347 — Management of Medical/Dental Emergencies	1		x	
350 — Removable Prosthodontics	2	x	x	
351 — Dental Anatomy and Occlusion	1		x	
352 — Community Dentistry	2	x	x	
353 — Oral Pathology	2	x		
354 — Practice Management	1		x	
355 — Clinico-Pathologic Correlation Conference	1		x	
357 — Fixed Prosthodontics	2	x	x	
358 — Operative Dentistry	1		x	
359 — Oral Surgery	2	x	x	
360 — Pharmacology	4	x		
361 — Pediatric Dentistry	1	x		
362 — Endodontics	1	x		
363 — Periodontics	2	x	x	
364 — Pain and Anxiety Control	1	x		
365 — Orthodontics	1		x	
366 — Pediatric Dentistry	1		x	
371 — Practice Management	2	x		
372 — Practice Management	1		x	
373 — Practice Management	1		x	
374 — Principles of Medicine	2	x		
Third Year—Clinical Courses				
375 — Practice Management	1-3	x	x	x
376 — Removable Prosthodontics	2-6	x	x	x
377 — Periodontics	1-4	x	x	x
380 — Endodontics	1-4	x	x	x
383 — Operative Dentistry	2-8	x	x	x
384 — Oral Surgery	1-3	x	x	x
385 — Orthodontics	1-3	x	x	x
386 — Pediatric Dentistry	1-5	x	x	x
387 — Clinical Oral Diagnosis	1-3	x	x	x
388 — Pediatric Dentistry	1	x	x	x
389 — Fixed Prosthodontics	2-6	x	x	x
394 — Community Dentistry	1-12			x
395 — Hospital Dentistry Practicum	1-15			x
396 — Clinical Oral Radiology	1-3	x	x	x
Fourth Year—Clinical Courses				
375 — Practice Management	1-3	x	x	
376 — Removable Prosthodontics	2-6	x	x	
377 — Periodontics	1-4	x	x	
380 — Endodontics	1-4	x	x	
383 — Operative Dentistry	2-8	x	x	
385 — Orthodontics	1-3	x	x	
386 — Pediatric Dentistry	1-5	x	x	
387 — Clinical Oral Diagnosis	1-3	x	x	
388 — Pediatric Dentistry	1	x	x	
389 — Fixed Prosthodontics	2-6	x	x	
394 — Community Dentistry	1-12	x	x	
395 — Hospital Dentistry Practicum	1-15	x	x	
396 — Clinical Oral Radiology	1-3	x	x	
397 — Special Topics	1-15	x	x	

The relationship of the number of elective and/or required hours during the fourth year may vary with each student depending upon the individual student's progress.

Pediatric Dentistry

Professor Nash (*Chairperson*); Associate Professor Fenton; Assistant Professors Gwynn and Hagan; Instructors Brannon, Nicholson, and Thompson.

- 319. *Pediatric Dentistry*. II. 1 hr. PR: Consent. Normal growth and development presented from physical, intellectual, psychological, and oral perspectives. Behavior of children in dental environment reviewed and strategies for management examined.
- 335. *Pediatric Dentistry*. I and II. 2 hr. PR: Consent. Didactic instruction foundational to the dental care to children presented in the following modules of instruction: oral diagnosis/treatment planning/case presentation, prevention, restorative dentistry, pulpal therapy, management of the developing occlusion and trauma to the dentition and oral structures.
- 361. *Pediatric Dentistry*. I. 1 hr. PR: Consent. Continued didactic instruction in dentistry for the child patient with the following learning packages programmed: abnormal dental development, oral habits, and adolescent dentistry.
- 366. *Developmentally/Medically Compromised Child*. II. 1 hr. PR: Consent. A didactic course that develops the knowledge base necessary for providing adequate dental care to the developmentally disabled and/or medically compromised child. (1 hr. lec.)
- 386. *Pediatric Dentistry*. I, II, S. 1-5 hr. PR: Consent. Instruction in the clinical setting with the goal of developing the psychomotor skills and judgment necessary to provide comprehensive care for the child patient.
- 388. *Developmentally/Medically Compromised Child Practicum*. I, II, S. 1 hr. PR: Consent. A clinical course that guides the student in the development of diagnostic and clinical skills essential to the treatment of developmentally disabled and/or medically compromised children. (1 hr. practice.)
- 397. *Special Topics*. (*Fourth Year*.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Periodontics

Professor Morrison (*Chairperson*); Associate Professors Crout, Hart, and Hornbrook; Assistant Professors Reed, Rodeffee, Rosenfeld, Segal, Vargo, and Wanker.

- 311. *Periodontics*. S. 1 hr. Introduction to periodontal diseases, their diagnosis and treatment. Laboratory instruction is included.
- 315. *Periodontics*. II. 2 hr. Study of professional communication and introduction to the theory and practice of preventive dentistry.
- 332. *Periodontics*. II. 1 hr. Lectures in the advanced theory and practice of preventive dentistry with emphasis on nutrition.
- 340. *Periodontics*. I. 1 hr. Intermediate didactic instruction in periodontal therapy including basic surgery and post-operative care.
- 342. *Periodontics*. I. 1 hr. PR: Consent. Introduction to the practice of preventive dentistry.
- 363. *Periodontics*. Yr. 2 hr. Advanced didactic instruction in periodontal therapy including special surgical procedures.
- 377. *Periodontics*. Yr. and S. 1-4 hr. Clinical experience in the diagnosis and treatment of periodontal diseases.
- 397. *Special Topics*. (*Fourth Year*.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Fixed Prosthodontics

Professor Emeritus Adams; Professors Bianco (*Chairperson*) and Tucker; Associate Professors Connor, Kwiatkowski, and N. Smith; Clinical Associate Professor Queen; Clinical Assistant Professor W. Taylor.

- 314. *Fixed Prosthodontics*. S. 1 hr. Preclinical lectures and laboratory exercises in which first-year students are introduced to the technics of preparing and restoring teeth with crown restorations.
- 336. *Fixed Prosthodontics*. Yr. 6 hr. PR: Consent. Lectures and laboratory exercises involving principles and technics of crown and bridge prosthodontics. Topics include types of dental bridges, their indications, and contraindications.
- 357. *Fixed Prosthodontics*. Yr. 2 hr. PR: Consent. Lectures concerned with clinical practice; diagnosis, treatment planning, treatment procedures, ceramics, esthetics, and occlusion.
- 389. *Fixed Prosthodontics*. Yr. and S. 1-6 hr. PR: Consent. Clinical application of the theory and practice of crown and bridge dentistry.
- 397. *Special Topics*. (*Fourth Year*.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Maxillofacial Prosthodontics

Professor Bianco (*Chairperson*); Associate Professor Kluth.

- 397. *Special Topics*. (*Fourth Year*.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Removable Prosthodontics

Professors Bianco (*Chairperson*) and DeCounter; Associate Professors Harper and Roth; Assistant Professors Beaumont, Camele, and Stewart; Clinical Assistant Professor Sauter.

- 313. *Removable Prosthodontics*. I. 3 hr. Lectures and laboratory practice in biomechanical requirements of the edentulous patient.
- 316. *Removable Prosthodontics*. S. 1 hr. Lectures and laboratory practice in maxillo-mandibular relationships mandibular and occlusion.
- 317. *Removable Prosthodontics*. II. 1 hr. PR: Consent. A lecture course providing an introduction to removable partial denture prosthetics.
- 334. *Removable Prosthodontics*. Yr. 3 hr. Didactic and laboratory practice for treatment of the partially edentulous patients, and introduction to clinical complete denture prosthodontics.
- 341. *Removable Prosthodontics*. S. 2 hr. Clinical demonstrations correlating the didactic and laboratory practices with the actual treatment of a removable prosthodontic patient.
- 350. *Removable Prosthodontics*. Yr. 2 hr. Lectures concerned with clinical practice of complete and partial removable prostheses.
- 376. *Removable Prosthodontics*. Yr. and S. 2-6 hr. Continued application of the theory and practice of removable prosthodontics.
- 397. *Special Topics*. (*Fourth Year*.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Advanced Education Programs

The School of Dentistry offers advanced education programs. The Department of Endodontics and the Department of Orthodontics offer programs of advanced study leading to the degrees of Master of Science (M.S.). Programs leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees are available in the basic sciences of Anatomy, Microbiology, Biochemistry, Pharmacology and Toxicology, and Physiology. The Department of Oral and Maxillofacial Surgery offers one oral surgery internship and three residencies. Seven general practice residencies also are offered by the School of Dentistry. Continuing education courses are offered throughout the year. Detailed information concerning admission requirements, courses of study, etc., in these programs may be obtained from the Office of the Associate Dean for Postdoctoral Programs, WVU School of Dentistry, Morgantown, WV 26506.

Endodontic Program

Master of Science (M.S.)

The School of Dentistry and its Department of Endodontics offer a program of advanced study and clinical training leading to the degree of Master of Science (M.S.) The program requires a minimum of 24 months (two academic years and two summer sessions) of full-time residency in the School of Dentistry. It is designed to qualify dentists for careers in endodontic clinical practice, teaching, and research.

Inquiries concerning this program should be directed to the Office of the Associate Dean for Postdoctoral Programs. Applicants will be processed in the School of Dentistry. Applicants approved for admission to the program will be notified soon after January 15.

Requirements for Admission to the Endodontic Program

1. Graduation from an accredited school of dentistry.
2. Evidence of scholastic and clinical achievement that would indicate the applicant's ability to progress in a program of this nature.
3. Each applicant must file with the Department of Endodontics all information requested in the departmental application form.

Requirements for Degree of Master of Science

1. Fulfillment of general WVU graduate study requirements.
2. Twenty-four months (two academic years and two summer sessions) of consecutive residency at the WVU School of Dentistry.
3. An approved master's thesis based on original research completed during the period of residency in an area related to endodontics.
4. Must satisfactorily pass a final oral examination.
5. Must complete a minimum of 57 credit hours. These include 32 hours of endodontic courses, a minimum of 18 hours of selected basic sciences subjects, and a thesis (7 hours).
6. Must have demonstrated satisfactory clinical competency in the student's field.
7. Must have maintained a grade level commensurate with graduate education.

Dentistry (Dent.)

400. *Advanced Oral Surgery*. I, II, S. 1-12 hr. PR: Consent. Advanced study of therapeutics, hospital protocol, and surgical aspects of oral surgery involving lectures, seminars, demonstrations, and clinical applications.

Endodontics (Dent.)

390. *Clinical Endodontics*. I, II, S. 1-5 hr. PR: Graduate of an accredited dental school and admission to the Advanced Education Program in Endodontics or consent. (May be repeated for credit.) Clinical endodontic practice in the areas of: ordinary endodontic cases, complex endodontic cases, hemisection, root amputation, replantation, transplantation, endodontic implantation, vital pulp therapy, apexification, and bleaching.
391. *Endodontic Theory*. I, II, S. 2 hr. PR: Consent. Provides seminar discussions in the topics of: basic endodontic techniques, advanced endodontic techniques, endodontic literature review, case presentation, and advanced endodontic theory.
490. *Endodontic Teaching*. S. 2 hr. PR: Consent. Selected teaching experiences including lecture, clinical, and laboratory teaching of undergraduate endodontic courses.
497. *Endodontic Research*. I, II, S. 2-3 hr. PR: Consent. Students will prepare a research protocol, conduct experimental research, and prepare a thesis of original endodontic research.

Microbiology (M. Bio.)

317. *Special Problems in Microbiology*. I, II, S. 1-7 hr. per sem. with a total of 24 hr. available. Pathogenic microorganisms, including immunology and antimicrobial agents.

Pathology (Path.)

382. *Oral Histopathology*. (For graduate and dental students.) I, II. 1-2 hr. PR: Consent. Advanced study of the microscopic aspects of oral and paraoral disease through weekly seminars with emphasis placed on diagnosis.
401. *Special Studies in Oral Pathology*. I, II. 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.

Pharmacology and Toxicology (Pcol.)

360. *Pharmacology*. I. 4 hr. PR: Consent. Lecture and laboratory on pharmacologic actions and therapeutic uses of drugs.

Statistics (Stat.)

311. *Statistical Methods 1*. I, II. 3 hr. PR: Math. 3. Statistical models, distributions, probability, random variables, tests of hypotheses, confidence intervals, regression, correlation, transformations, F and Chi-square distributions, analysis of variance and multiple comparisons. (Equiv. to Ed. P. 311 and Psych. 311.)

Orthodontic Program

Master of Science (M.S.)

The School of Dentistry and its Department of Orthodontics offer a program of advanced study and clinical training leading to the degree of Master of Science (M.S.) The program requires a minimum of 24 months (two academic years and two summers) of full-time residency in the School of Dentistry. It is designed to qualify dentists for careers in orthodontic clinical practice, teaching, and research.

Inquiries concerning this program should be directed to the Office of the Associate Dean for Postdoctoral Programs. Those applicants approved for admission to the program will be notified soon after January 15.

Requirements for Admission to the Orthodontic Program

1. Graduation from an accredited dental school.
2. Evidence of scholastic and clinical achievement that would indicate the applicant's ability to progress in a program of this nature. Generally, a minimum grade-point average of 2.75 is required for admission.
3. Each applicant must file with the department all information requested in the department application form.

Requirements for Degree of Master of Science

1. Fulfillment of general WVU graduate study requirements.
2. Twenty-four months (two academic years and two summers) of consecutive residency at the School of Dentistry.
3. An approved master's thesis based on original research completed during the period of residency in an area related to orthodontics.
4. Must satisfactorily pass a final oral examination.
5. Must complete a minimum of 50 credit hours. These include 35 hours of orthodontic courses, a minimum of 9 hours of selected basic sciences subjects, a minimum of 6 hours of elective allied subjects, and a thesis (6 hours).
6. Must have demonstrated satisfactory clinical competence in the student's field.
7. Must have maintained a grade level commensurate with graduate education.

Anatomy (Anat.)

315. *Advanced Applied Anatomy*. I, 3 hr. PR: Consent. Advanced descriptive and functional anatomy of the head and neck, especially as it relates to orthodontics. The course stresses the oral-facial region, the skullbase, and the architecture of the skull in relation to masticatory forces.
316. *Craniofacial Growth and Maturation*. II, 3 hr. PR: Anat. 315 or consent. The current concepts of craniofacial growth and maturation are presented and integrated for application to clinical problems.

Orthodontics (Dent.)

416. *Biomechanics*. I, II, S. 2 hr. PR: Consent. Design and function of the teeth and their surrounding structures, and response of these tissues to orthodontic procedures.
417. *Orthodontic Technique*. I, II, S. 2 hr. PR: Consent. Laboratory course in techniques related to fabrication and manipulation of orthodontic appliances.
418. *Orthodontic Materials*. I, II, S. 1 hr. PR: Consent. Physical properties of materials used in orthodontic appliances.
419. *Orthodontic Diagnosis*. I, II, S. 1-3 hr. PR: Consent. Seminar-type class on technique of patient examination, acquiring diagnostic records, and analyzing and correlating this information to the treatment of clinical problems.
420. *Cephalometrics*. S. 1-3 hr. PR: Consent. Use of radiographic cephalometry in studying growth of the human face, analysis of dentofacial malformations, and evaluation of orthodontic treatment.
421. *Orthodontic Mechanics*. I, II, S. 1-4 hr. PR: Dent. 416, 417. Seminar and laboratory course on basic orthodontic mechanical properties.

422. *Advanced Orthodontic Mechanics*. I, II, S. 1 hr. PR: Dent. 421. Continuation of Dent. 421 involving more difficult type cases and introducing more sophisticated appliance therapy.
423. *Growth and Development*. II. 1-5 hr. PR: Consent. Seminar-type course on normal and abnormal growth of the human head and its application to orthodontics.
425. *Orthodontic Seminar*. I, II, S. 1-8 hr. PR: Consent. Discussions involving all branches of dental science, with special emphasis on the orthodontic interest. Assigned topics and articles in the literature discussed.
426. *Orthodontic Clinic*. I, II, S. 1-12 hr. PR: Dent. 416, 417. Clinical treatment of selected patients.
497. *Research*. I, II, S. 1-15 hr.

Pathology (Path.)

397. *Pediatric Oral Pathology*. I. 2 hr. PR: Consent. Lecture and seminar course on inherited diseases and other pathologic situations of oral cavity and face specific for pediatric age group.

Statistics (Stat.)

311. *Statistical Methods 1*. I, II. 3 hr. PR: Math. 3. Statistical models, distributions, probability, random variables, tests of hypotheses, confidence intervals, regression, correlation, transformations, F and Chi-square distributions, analysis of variance and multiple comparisons. (Equiv. to Ed. P. 311 and Psych. 311.)

Dental Hygiene Program

The Dental Hygiene Program is a department of the School of Dentistry. The four-year dental hygiene curriculum combines the advantages of both a liberal arts and a professional education. This curriculum format has departed from the conventional, but there is a definite conviction that the inclusion of many disciplines provides greater strength to the program. The educational objectives of the Dental Hygiene Program are:

To prepare individuals to perform to the level of competency specified by the faculty, the state boards of dental examiners, and employers of those oral health services legally approved for a dental hygienist in any state, district, or territory of the United States. Presently, these services include: observation, recording, prevention, treatment, education, and communication.

To prepare individuals capable of performing the clinical skills delegated to any dental auxiliary (excluding the dental laboratory technician).

To prepare dental hygienists to teach clinical skills and to present didactic information in dental auxiliary education programs.

To prepare individuals capable of performing coordinative and administrative functions in public health and community related areas.

To prepare individuals for the dental hygiene profession who have a keen sense of social awareness and professional responsibility.

To prepare dental hygienists to continue their professional development past graduation through formal training, self-study, and independent thought.

To prepare individuals who have the capability to understand and adapt to new developments and changes in the scientific, sociologic, and practical factors pertaining to health.

To provide the educational foundation for higher education.

Upon completion of all requirements and with the recommendation of the School of Dentistry, the candidate is awarded the degree of Bachelor of Science in Dental Hygiene (B.S.)

The Dental Hygiene curriculum is structured in accordance with the standards specified for a Dental Hygiene Program by the Commission on Accreditation of the American Dental Association. The program has been fully accredited by this organization since 1965.

Admission

Students enter dental hygiene as freshmen, and the general admission policies of West Virginia University are followed. The applicant must be a graduate of an accredited high school or preparatory school and have completed 1 unit of plane geometry, biology, and chemistry, 2 units of algebra, and 4 units of English. Good grades are expected, and applicants should rank in the upper one-third of their graduating class. Particular attention is given to academic achievement in science courses.

All students are required to take either the American College Testing Program (ACT) tests or the Scholastic Aptitude Test (SAT) and have the report of scores sent to WVU prior to the admission decision. Students admitted on the basis of SAT scores must submit results of the ACT by the end of the first semester of their freshman year.

In addition to a special application form for dental hygiene, each candidate for admission is supplied with three standardized reference forms. Each applicant is requested to have one dental hygienist and two other individuals return the forms directly to the Department of Dental Hygiene.

The personal qualifications, scholastic record, test scores, and recommendation of each applicant are reviewed by the Dental Hygiene Admissions Committee. After reviewing these credentials, the committee will request an interview with those applicants who are most qualified. The applicant will be notified by letter of the date, time, and place of the interview.

The competition for entrance into dental hygiene is extremely keen. *Nonresidents should recognize that preference is given to West Virginia residents. Only those nonresidents with the highest qualifications will be considered.*

For application materials the applicant should write to the Department of Dental Hygiene, West Virginia University, Morgantown, WV 26506; or the Office of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. Applicants should apply and complete aptitude tests as early as possible in the year preceding the year admission is desired. Applications are available in September and are not accepted after March 1.

Promotion

At the end of each semester, the status of each dental hygiene student is reviewed by the Dental Hygiene Committee on Academic Standards. This committee then makes recommendations to the Dean. Final disposition in each case is the prerogative of the Dean and the Chairperson of Dental Hygiene.

Unconditional promotion normally depends upon fulfillment of all course requirements and the attainment of both a minimum cumulative grade-point average and a minimum science-dental hygiene grade-point average. These minimum grade-point averages are: a 1.50 for promotion to the second year; a 1.75 for promotion to the third year; a 2.0 for promotion to the fourth year; and a 2.0 for graduation.

The courses (or equivalents) utilized to calculate the science-dental hygiene grade-point average are: Anatomy 101; Biology 1; Chemistry 11, 12;

DENTAL HYGIENE CURRICULUM PLAN

First Year				Second Year			
First Sem.	Hr.	Second Sem.	Hr.	First Sem.	Hr.	Second Sem.	Hr.
Engl. 1	3	Chem. 12	4	Anat. 101	4	Physi. 141	4
Core A		Dnt. Hy. 2	3	Dnt. Hy. 105	2	Dnt. Hy. 90	3
(Spch. 11 & 12)	3	Dnt. Hy. 85	3	Nutr. 71	3	Pcol. 160	3
Biol. 1	4	Core A		Ed.P. 105	3	Dnt. Hy. 120	1
Chem. 11	4	(Elective)	3	M. Bio. 26	4	Dnt. Hy. 125	4
Dnt. Hy. 1	2	Core B		Core B		Engl. 2	3
Dnt. Hy. 66	1	(Soc. & A. 1)	3	(Psych. 1)	3		
	<u>17</u>		<u>16</u>		<u>19</u>		<u>18</u>
Third Year				Fourth Year			
First Sem.	Hr.	Second Sem.	Hr.	First Sem.	Hr.	Second Sem.	Hr.
Dnt. Hy. 168	1	Dnt. Hy. 169	1	Dnt. Hy. 202	2	Dnt. Hy. 206	2-4
Core A		Dnt. Hy. 174	2	Dnt. Hy. 204	1	Electives	
(Elective)	3	Core B	3	Core B	3	Maximum	14
Path. 128	2	(Psych. 141 or 164)		(Upper-Division		Minimum	13
Dnt. Hy. 152	2	Core A		Soc. & A. or			
Anes. 300	1	(Elective)	3	or Econ. 51)			
Dnt. Hy. 172	2	Dnt. Hy. 150	2	Electives			
Dnt. Hy. 160	3	Dnt. Hy. 161	2	Maximum	7		
Dnt. Hy. 162	2	Dnt. Hy. 164	2	Minimum	4		
Dnt. Hy. 163	2	Path. 129	3				
	<u>18</u>		<u>18</u>		<u>15-18</u>		<u>16-19</u>

Dentistry 300; Microbiology 26; Pathology 128, 129; Pharmacology and Toxicology 160; Physiology 141; and *all* courses in Dental Hygiene (Dnt. Hy. 1-220).

Students who do not qualify to be promoted unconditionally may be placed on probation or may be suspended from further studies in the Department of Dental Hygiene. Probationary status implies that the student will be allowed to make up deficiencies or be given an opportunity to repeat a year.

If a student is promoted on probation, the student must reach the required minimum standards specified above. Students on probation who do not obtain these standards will be reevaluated by the committee.

The Department of Dental Hygiene reserves the right to suspend or require remedial work of any student who does not perform at a level satisfactory for patient care.

Professional Organizations

The American Dental Hygienists' Association is the official organization representing the dental hygiene profession. Student dental hygienists have the opportunity of student membership in the association.

Sigma Phi Alpha is the national dental hygiene honorary society. Student membership is limited to 10 percent of each graduating class. Candidates are selected on the basis of scholarship, character, and potential as a dental hygienist.

American Association of Dental Schools. This association of dental educational institutions and faculties has as its primary purpose to promote

and improve dental education. Dental hygiene students may join as student members.

West Virginia University School of Dentistry Alumni Association. Graduates of the Department of Dental Hygiene may join and participate in all activities of the Alumni Association.

Courses of Instruction in Dental Hygiene

Professor Komives (Chairwoman); Associate Professors DeBiase, Graves, Krouse, and Sherrill; Assistant Professor Pfeifer; Instructor Pyle; Clinical Instructors Arceneaux and DeMarco; Adjunct Professor Ramsey; School of Dentistry faculty.

(Courses included in the Dental Hygiene curriculum, but not listed here, will be found either under other department listings in this *Catalog* or the *WVU Undergraduate Catalog*.)

Dental Hygiene (Dnt. Hy.)

1. *Orientation to Dental Hygiene*. I. 2 hr. PR: Enrollment in dental hygiene. Historical development of dental hygiene with emphasis on the philosophy, responsibilities, and current role of the dental hygienist as a member of the dental health team.
2. *Introduction to the Dental Specialties*. II. 3 hr. PR: Dnt. Hy. 1 or consent. Survey of functions and responsibilities of each of the dental specialties. Emphasis on the role of the dental assistant and dental hygienist in each type of practice.
66. *Technical Expression and Dental Literature*. I. 1 hr. PR: Enrollment in dental hygiene. Preparation and uses of professional communication.
85. *Oral Anatomy*. II. 3 hr. PR: Enrollment in dental hygiene. Human teeth and the anatomy of the head and neck with emphasis on structures in or related to the oral cavity.
90. *Oral Histology*. II. 3 hr. PR: Enrollment in dental hygiene. Histological structures of the teeth and tissues of the oral cavity and the morphological development of these structures.
105. *The Theory and Practice of Prevention*. I. 2 hr. PR: Enrollment in dental hygiene. Philosophy and techniques of preventive dentistry.
120. *Dental Nursing Technics*. II. 1 hr. PR: Enrollment in dental hygiene. Emergency first aid and principles of nursing applicable to the dental office.
125. *Dental Hygiene Technics*. II. 4 hr. PR: Enrollment in dental hygiene. Fundamental principles and technics of dental hygiene are presented through lectures, laboratory, and clinical participation.
150. *Dental Health Education*. II. 2 hr. PR: Enrollment in dental hygiene. Lectures, demonstrations, and field experiences on the methods, materials, and resources used in teaching dental health to various population groups.
152. *Dental Radiology*. I. 2 hr. PR: Enrollment in dental hygiene. Basic principles and procedures in oral radiology technics and interpretation.
160. *Dental Materials*. I. 3 hr. PR: Enrollment in dental hygiene. Lecture and laboratory covering the science and manipulation of dental materials. (2 hr. lec., 1 hr. lab.)
161. *Expanded Functions*. II. 2 hr. PR: Dnt. Hy. 160. Lecture and laboratory covering specialty topics in dentistry for expanded functions, four handed dental assisting, and the placing and carving of amalgam and resin restorations in dentiform teeth. (1 hr. lec., 1 hr. lab.)
162. *Dental Hygiene Clinical Methods*. I. 2 hr. PR: Dnt. Hy. 125. Principles of oral prophylaxis, instruction in the care of special patients, use of diagnostic aids, and nutritional counseling. (2 hr. lec.)
163. *Clinical Dental Hygiene I*. I. 2 hr. PR: Dnt. Hy. 125. Clinical application of dental hygiene principles and techniques. (2 hr. lab.)

164. *Clinical Dental Hygiene 2. II.* 2 hr. PR: Dnt. Hy. 162, 163. Clinical applicator of dental hygiene principles and techniques. (2 hr. lab.)
168. *Periodontics. I.* 1 hr. PR: Enrollment in dental hygiene. Tissues of the periodontium, histopathology of periodontal disease with emphasis on etiology, examinations, diagnosis, treatment, and prevention within the scope of dental hygiene.
169. *Periodontics. II.* 1 hr. PR: Dnt. Hy. 168. A sequential course to Dnt. Hy. 168. Includes recognition and treatment of periodontal disease with emphasis on occlusion, surgical procedures, and post-operative care of patients.
172. *Public Health. I.* 2 hr. PR: Enrollment in dental hygiene. Theory and practice of preventive dentistry and community health.
174. *Dental Hygiene Teaching Methods. II.* 2 hr. PR: Enrollment in dental hygiene. Concepts and principles of administration, curriculum, and clinical teaching unique to dental auxiliary education. Emphasis on overall role of the dental hygiene educator.
202. *Dental Hygiene Practice. I.* 2 hr. PR: Senior enrollment in dental hygiene. Scope of practice for the dental hygienist including ethical and legal considerations. Public and professional relations as well as practice management are discussed.
204. *Advanced Dental Hygiene Methods. I.* 1 hr. PR: Senior enrollment in dental hygiene. Principles of advanced clinical dental hygiene and practice in non-traditional settings. (1 hr. lec.)
205. *Advanced Clinical Dental Hygiene 1. I.* 5 hr. PR: Senior enrollment in dental hygiene. Clinical experience in traditional and expanded duties; pre- and post-operative care of surgical patients, and radiology. (5 hr. clinic.)
206. *Advanced Clinical Dental Hygiene 2. II.* 3-4 hr. PR: Senior enrollment in dental hygiene. Continuation of clinical practice experience in dental hygiene procedures. (3-4 hr. clinic.)
220. *Special Topics in Dental Hygiene. I, II.* 1-22 hr. PR: Senior enrollment in dental hygiene. Special topics relevant to dental hygiene. A variety of sections offer elective opportunities to dental hygiene majors.

School of Medicine

The School of Medicine began as the College of Medicine in 1902. For ten years this program was affiliated with the College of Physicians and Surgeons of Baltimore, Md. In 1912 the School of Medicine had its formal beginning as an independent school offering the first two years of the medical curriculum. The School of Medicine moved from the Downtown Campus to the Medical Center in 1957 and inaugurated a four-year program in 1960. This coincided with the opening of University Hospital. In 1961, the first M.D. degrees were awarded to 15 students.

In 1945 the School of Medicine established a curriculum in Medical Technology leading to a degree of bachelor of science. The first graduates were awarded a combined degree by the College of Arts and Sciences and the School of Medicine in 1947. The Program of Medical Technology was established in the School of Medicine in 1961. The division of Physical Therapy was established and accepted its first class of 16 students in 1970. The division offers the final two years of a baccalaureate program leading to a degree in physical therapy.

West Virginia University Medical Center—Charleston Division was established in October, 1972, with the affiliation of WVU and the Charleston Area Medical Center. The Charleston Division offers programs for third and fourth-year medical students in a variety of required and elective courses.

West Virginia University School of Medicine—Wheeling Division was established in 1974. This program is available for many elective opportunities for students in the fourth year.

Committees (Chairpersons)

Academic Standards: Gunter N. Franz.

Biomedical Research Support: Roy L. Butcher.

Dean's Committee to Clarksburg VA Hospital: Richard A. DeVaul.

Curriculum Committee: Richard M. Iammarino.

Executive Faculty: Richard A. DeVaul.

Educational Advisory: Richard A. DeVaul.

Faculty Promotion: Michael G. Mawhinney.

Medical School-Hospital Liaison to Student Body: Richard A. DeVaul.

Student Admissions: John W. Traubert.

E. J. Van Liere Student Research Convocation: Wilbert E. Gladfelter.

Outstanding Teachers: Richard W. Eller.

Continuing Medical Education: David Z. Morgan.

Admissions Committee for Medical Technology: Anne W. Sharpe.

Admissions Committee for Physical Therapy: Carolyn E. Barnes.

Degree

The degree of Doctor of Medicine (M.D.) is granted to students who have completed the prescribed curriculum and who have been recommended for the degree by the faculty of the School of Medicine.

It is to be understood that the following information applies only to students in the School of Medicine who are enrolled in the prescribed curriculum which culminates in the M.D. degree. All other students, undergraduates or graduates, enrolled in other programs in the School of Medicine are governed by the policies found elsewhere in the *Medical Center Catalog*.

Combined M.D.-Ph.D. Program

This should be considered only by students who have shown exceptional interest and promise. All of the admission requirements of the School of Medicine and the specific graduate program will apply. Specific course requirements and procedures for monitoring progress will be detailed by both programs.

Admissions

Because of the large number of applicants and limited openings available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants who have ties to the state of West Virginia will also be considered. Careful consideration is given to those personal qualifications which bear upon fitness of the applicants for the study and practice of the profession. No one specific factor is used to determine admission. Admission is dependent on a number of things, such as grade-point average, interview, letters of recommendation, MCAT scores, motivation, and interpersonal and communication skills. Any applicant who is refused admission or who fails to enroll after acceptance must re-apply in the regular manner if consideration for a subsequent year is desired.

When to Apply for Admission

Application for admission in August, 1986, should be made beginning 1, upon June completion of the 1984-85 school year. The latest date for filing an application is November 30, 1985. It is desirable for applicants to file early and to make certain that New Medical College Admission Test scores, current transcripts, and letters of recommendation are available to the Committee on Admissions.

College Credit Required

The applicant should present a broad general education including a major in some field, not necessarily a natural science. The Admissions Committee needs evidence of excellence of academic performance and steady progress toward a goal.

An excess of credit hours or higher degrees does little to offset the disadvantages of low grades in securing admission to the School of Medicine. The practice of repeating courses to raise the grade is discouraged. Applicants who have been subject to suspension from the West Virginia University or other medical schools can be admitted only in very exceptional cases and at the discretion of the Committee on Admissions.

The following courses are required for consideration of an application to Medical School.

English	6 semester hours or equiv.
Biological Sciences (with lab)	8 semester hours or equiv.
Inorganic Chemistry (with lab)	8 semester hours or equiv.
Organic Chemistry (with lab)	8 semester hours or equiv.
Physics (with lab)	8 semester hours or equiv.
Social or Behavioral Sciences	6 semester hours or equiv.

A strong quantitative background is recommended, including calculus.

A total of 90 semester hours of work, exclusive of Military Science (ROTC) and General Physical Education, is required.

It is recognized that applicants for medical school may have very diverse undergraduate backgrounds with a variety of majors. While many undergraduate courses, aside from the required prerequisites, might be beneficial in providing additional background for medical school, the choice of such courses should be determined by the academic strengths and weaknesses of the particular applicant.

New Medical College Admission Test

The scores of the new Medical College Admission Test (MCAT) are one of the factors used by the Admissions Committee in considering an applicant for admission. For this reason, it is strongly recommended that students take the test in the Spring before making application for admission. Delaying the test until Fall, even though all science courses may not have been completed, jeopardizes an applicant's opportunity since no final consideration is given until MCAT scores are obtained by the Admissions Committee. No applicant can be considered who delays taking the MCAT until Spring of the year of expected entry. Information concerning the time and place of the test can be obtained from your premedical adviser or committee or the Office of Admissions and Records. The New Medical College Admission Test is required of all applicants, and it must have been taken within the past two years before applying.

Personal Interview

No applicant is admitted without an interview by the Committee on Admissions. Currently, all residents of West Virginia are granted an interview. Qualified nonresident applicants are interviewed at the discretion of the Committee on Admissions. The applicant is notified of the time and place of the interview. Interviews and consideration of applicants begin in September.

Conditions Following Acceptance

The accepted applicant is expected to meet all entrance requirements and satisfactorily complete all undergraduate work in progress. A satisfactory performance in the completion of such work is defined as one which is consistent with the student's previous academic record. Failure to do so may result in the withdrawal of the acceptance by the Committee on Admissions.

The student is to be aware that furnishing or causing to be furnished false or incorrect information for the purpose of the School of Medicine application constitutes grounds for disciplinary actions, including, but not limited to, expulsion or revocation of the acceptance.

Admission to Advanced Standing

Only in very exceptional circumstances may students be admitted to advanced standing positions. Any transfer ordinarily would be considered only at the end of the second year. The application must be received no later than May 15. Results of either Part I of the National Board of Medical Examiners examination or the Medical Science Knowledge Profile (MSKP) test must be available before an application can be acted upon. In addition, the applicant must present certification of good standing in the school from which the applicant is transferring. An official transcript of all prior medical school work from all medical schools attended will be required.

Examinations and Evaluation of Student Progress

It is the policy of the School of Medicine that the several departments conduct examinations of various types from time to time to help in the overall evaluation of student progress. A Satisfactory (S) or Unsatisfactory (U) designation is formally recorded for each course. In addition, each department files in the Office of the Dean a narrative evaluation of the work of each student identifying strengths and weaknesses and suggesting remedial or corrective measures, if appropriate.

In addition to departmental examinations, which help serve as a basis for recording grades in individual courses, other examinations may be conducted at times for other purposes. At the end of the first year a comprehensive examination, designed on an interdepartmental basis, may be required as a test of readiness for promotion. National Board of Medical Examiners, Part I, examinations are given as part of the testing of achievement in individual disciplines and are incorporated in the final grade for that course. The student is encouraged to take the complete Part I examination as a candidate for National Board certification near the end of the second year. The Part II examination is required as a comprehensive test in clinical science and the results are incorporated in the final grades for clinical clerkships.

The overall performance of the student on the National Boards will be taken into account by the Committee on Academic Standards when considering decisions regarding promotion, and by the faculty when making the official recommendation for granting degrees.

All states require that physicians be licensed to practice medicine. Satisfactory completion of all portions of the National Board of Medical Examiners examination is one mechanism by which a license may be obtained. Differing amounts of postgraduate medical education are required by various states before considering application for licensure. This should be determined on a state-by-state basis.

Promotions and Progress

The Committee on Academic Standards administers the promotions and dismissal rules. Exceptions may be made only on recommendation of the committee. The application of rules on dismissal is not automatically changed by removal of Incomplete (I) grades or by the repetition of courses in other medical schools.

1. The Committee on Academic Standards of the School of Medicine reviews the performance of each student in every course at the end of each academic period and makes recommendations to the Dean. If a student has been found to have an unsatisfactory performance in any of the required courses, dismissal from the school may be recommended. In selected circumstances, the committee may recommend remedial work or repetition of all or a portion of the curriculum.

Rarely, a student may be subject to remedial work or dismissal on recommendation of the Committee on Academic Standards to the Dean even though no Unsatisfactory (U) grade has been received in a required course. Such an unusual event would occur only if, in the opinion of the committee, the student's overall performance does not meet the academic standards of the School of Medicine.

2. No student will be permitted to register for any work of the second or subsequent year until all courses for the year before have been completed successfully.

3. All courses and all classes at the School of Medicine are graded as Satisfactory (S) or Unsatisfactory (U) at the completion of the course in lieu of other letter grades. The S and U designation is accompanied by a narrative report of the student's progress and any factors requiring remedial work or counseling. The U shall be regarded as a failing grade and all University regulations regarding a failed course shall then apply.

4. Readmission of a dismissed student is the prerogative of the Committee on Admissions after careful review of the student's performance, including but not limited to, recommendations of the Committee on Academic Standards.

5. All nondisciplinary matters are governed by the concept of academic due process.

6. Upon concurrent recommendation of the Committee on Admissions, the Committee on Academic Standards, and the departments concerned, a limited number of students may be admitted to the School of Medicine to follow a special schedule reflecting the student's individual needs to complete requirements for the M.D. degree.

In view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of the University the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession. In all other matters regarding Academic Rights and Responsibilities of students, matters concerning promotions, disciplinary actions for failure to meet academic standards, and appeals procedures due process principles shall apply. For further information the reader is referred to "The Policy on Academic Standards" governing the M.D. degree program at West Virginia University School of Medicine which is available at the School of Medicine Office of Student Affairs.

Incomplete Courses

The grade of Incomplete (I) is given when the instructor believes the work is unavoidably incomplete or that a supplementary examination is justifiable. If a grade of I is not removed by satisfactory completion of the work before the end of the next semester in which the student is in residence, it becomes a failure unless special permission to postpone the work is obtained from the Committee on Academic Standards (University rule.) It is the responsibility of the student to consult the instructor about the means and schedule for making up incomplete courses.

Departure From Scheduled Work

Medical students must register for all prescribed courses for each semester except by special permission from the Committee on Academic Standards of the School of Medicine. This permission is not valid until it has been reported to the Assistant to the Director of Admissions and Records, Medical Center, for record. The Office of Student Affairs in the School of Medicine must also be notified.

Departure

Interruption of academic work must be approved by the Committee on Academic Standards in its recommendation to the Dean except in urgent circumstances, such as for illness.

Honor Code

Students in the School of Medicine agree to abide by the provision of an honor code which requires ethical and moral standards of conduct in all situations. Each student is required to return a signed statement to the Office of Student Affairs, indicating the student has read and understands the student honor code of the West Virginia University School of Medicine which is available in the Student Affairs Office of the School of Medicine.

Immunizations

It is required that during the first semester of the first year all students must complete certain prescribed immunization and diagnostic procedures.

University Hospitals, Inc. and Outpatient Clinics

University Hospitals, Inc. and its outpatient clinics are dedicated to the education of students in the multiple disciplines of the health fields and to the advancement of knowledge in the sciences and arts concerned with health and illness.

The University Health Service (Student Health) is equipped to provide the majority of health care requirements free of charge to registered students. These facilities are open on a daily basis at the hours posted by University Health Service. Students needing health care are urged to consult with the University Health Service for health care needs. If a true emergency occurs or the University Health Service is not open, the student may be seen in the emergency room; however, additional charges may be incurred for this service as well as for diagnostic studies ordered.

All students who have a health problem which they feel may be causing difficulty with their academic progress are strongly advised to notify the Associate Dean for Student Affairs.

Organizations

Graduates of the School of Medicine have a *School of Medicine Alumni Association* devoted to the interests of students and graduates and to the encouragement of scientific and professional progress among its members and the medical profession generally.

Student American Medical Association. This organization has a chapter among the students of this school. An Auxiliary provides opportunities for student wives to meet and work together.

Student National Medical Association. This organization has among its objectives assistance in the recruitment and retention of minority students.

Lectureships

Alumni Lectureship. Annually some outstanding physician is brought to the WVU Medical Center under School of Medicine Alumni Association sponsorship to address the student body.

Gideon Stanhope Dodds Lectureship. A periodic lectureship, founded by a group of alumni and friends, honors Dr. Dodds, late professor emeritus of histology and embryology.

Curriculum Plan

First and Second Years

The plan of study is directed toward the principles and methodology of the medical basic sciences. However, the basic courses are designed so that the student begins to integrate concepts of patient care.

The student has the opportunity of an additional early exposure to patient-oriented instruction through the introduction to physical diagnosis and community medicine in the first term of the freshman year.

With the recognition that entering medical students have a wide variety of interests and backgrounds, elective opportunities are offered in the basic science years, beginning with the second term of the freshman year. The permissible elective courses or plans of study have broad limits and need not be confined to the Medical Center. The intention is to encourage responsible student initiative.

See Medicine I and Medicine II charts for representative schedules.

Third Year

A tightly-structured traditional third year gives the student a foundation in history-taking, examination, patient relations, laboratory aids, diagnosis, treatment, and use of the medical literature in the major clinical disciplines.

A number of third-year students will spend part or all of the third and fourth year in specified clerkships at the Charleston Division of the WVU Medical Center or other affiliated programs as designated by the faculty of the School of Medicine.

Ordinarily, third-year students should take Part II of the National Board of Medical Examiners examination in September of their fourth year. Under special circumstances, third-year students may take Part II of the NBME in April of their third year even though they will not have completed all of their clinical clerkships. In the event there is a question about when to take Part II, the student is advised to contact the Office of Student Affairs in the School of Medicine.

Fourth Year

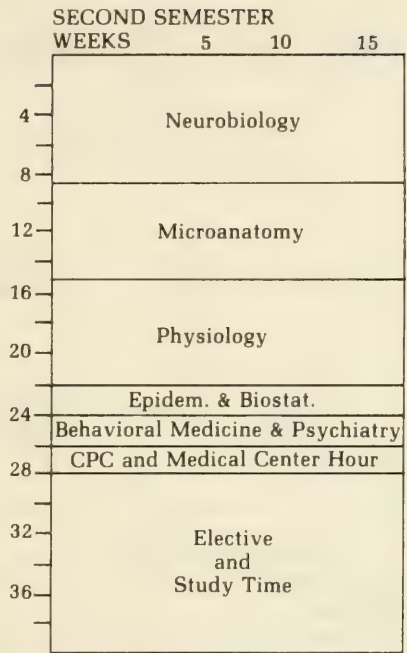
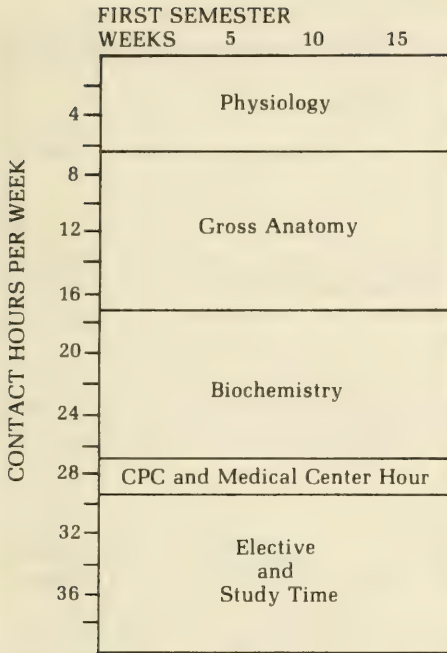
The fourth year is selective. The student chooses one of three tracks (see MS IV three alternative tracks) and works with the adviser to select the individual program. This program must also be approved by the fourth-year curriculum coordinator in the Office of Student Affairs. The majority of students are urged to follow the general track.

The student chooses a specialty track by department, and may already recognize an attraction to a sub-specialty within that department. The research track offers opportunity to spend much of the fourth year in medical or biological research.

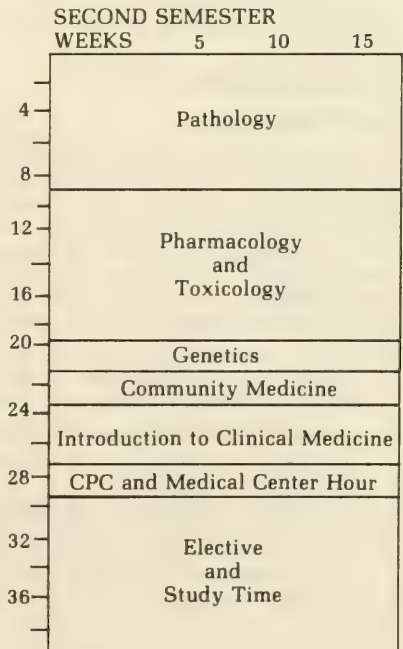
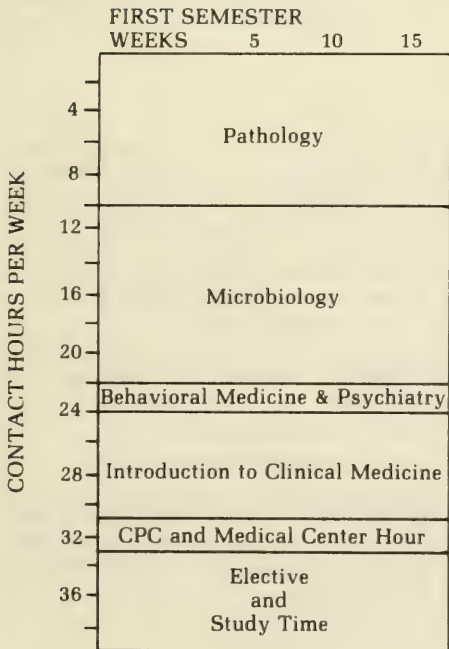
The student may choose a specialty track by department, and may already recognize an attraction to a sub-specialty within that department. The research track offers opportunity to spend much of the fourth year in medical or biological research.

Sixteen of the 44 weeks must be spent in intramural programs. In addition to programs on the Morgantown campus, the programs at the Charleston Division—WVU Medical Center, qualify as intramural. A *Catalog* is available that lists the approved intramural selectives.

MEDICINE I



MEDICINE II



MEDICINE III

Clerkships

WEEKS

12	Medicine
12	Surgery
12	Behavioral Medicine and Psychiatry
	Obstetrics and Gynecology
12	Pediatrics
	Neurology, Pediatrics OPD, Acute Medicine
48	TOTAL

Students interested in other extramural opportunities are advised to consult with the fourth-year curriculum coordinator in the Office of Student Affairs.

Every fourth-year student has the opportunity for four weeks of vacation. The student may alternatively choose valuable medical experience for vacation time.

A separate booklet lists the extramural in-state electives and provides specific guidelines for the fourth-year curriculum.

Courses of Instruction

Anesthesiology (Anes.)

Professors Eller (*Chairperson*), Heironimus, Rodman, and Smith; Associate Professors Dedhia, Doshi, Graf, Martinez, and Zimmerman; Assistant Professors Beatty, George, Jopling, Long, Romine-Long, Schiebel, Stadelnikas, and Teba; Instructors Moore, Smith, Staires, and Vance; Clinical Professors Cwik, Lilly, Weeks, and Zeedick; Clinical Associate Professors Bettinger, Hall, Koliner, Rajaratnam, Tercan, and Westmoreland; Clinical Assistant Professors Bellotte, Carter, Chevuru, Douglass, Gannon, Glickin, Green, Huber, Jawalekar, Kessel, Larkin, Mathew, Reddy, Saldanha, and Schienholtz; Instructors Delgra, Mixon, Thompson, and Walker.

301. *Basic Sciences Applied to Anesthesia—Medicine I and II.* 1-6 hr. per year. PR: Consent. (Not offered during summer.) Examination and evaluation of data, decision-making, discussion of special procedures. (Max. enrollment: 10.)

331. *Clinical Clerkship in Anesthesiology/Acute Medicine. (Third Year.)* CR.

A. *Lectures to Third-Year Students on Topics Related to Anesthesiology.*

B. *Clinical Clerkship in Acute Medicine.* Preanesthetic evaluation, local and systemic anesthesia, airway management, cardiopulmonary resuscitation, respiratory care, clinical pharmacology, toxicology, fluid and blood therapy, and pain management. Seminars and practical exercises in emergency cardiac life support clinical experience in ICU or OR. (Duration: 2 weeks.)

MEDICINE IV
Three Alternative Tracks

WEEKS	GENERAL	SPECIALTY	RESEARCH
4	Vacation	Vacation	Vacation
12	Special Selective Advisory Group Concurrence	Special Selective Department Chairperson Concurrence	Special Selective Advisory Group Concurrence
8	Clinical Neuro Sciences, Behavioral Medicine and Psychiatry, Radiology Ob Gyn or Pathology Including Clinical Pathology	Department Chairperson Approval	Advisory Group Approval
8	Medicine and or Pediatrics, Including Sub Specialty Units		
8	Surgery, Including Sub Specialty Units		
4	Acute and Ambulatory Care		
44	TOTAL		

399. *Selective Experiences in Anesthesiology. (Fourth Year.)* CR. (See Conjoined Courses.)

A. *Clinical Anesthesiology.* Participation in all aspects of intensive and respiratory care. Laboratory methodology. Measurement of ventilatory and circulatory parameters. Ventilator use and management. Offered continuously. Duration: 4 weeks. (Max. enrollment: 2.)

B. *Intensive and Respiratory Care.* Direct participation in all aspects of intensive and respiratory care. Laboratory methodology. Measurement of ventilatory and circulatory parameters. Ventilator use and management. Offered continuously. Duration: 4 weeks. (Max. enrollment: 2.)

C. *Pain Clinic.* Objective: To evaluate and treat patients with intractable pain from various disease states. Direct participation through a multidisciplinary approach using modalities of nerve blocks, physical therapy, sensory modulation, behavioral therapies, and neuropharmacology. Participation from Departments of Anesthesiology and Behavioral Medicine and Psychiatry. Duration: 2-8 weeks. Offered: Continuously. (Max. enrollment: 2.)

497. *Anesthesiology Research.* 1-15 hr. Participation in a variety of ongoing clinical research projects and/or in laboratory research related to the mechanism of action of analgesic drugs upon neurotransmitters and neuronal pathways involved in pain inhibition particularly monoaminergic and opioid processes. Duration: 4-24 weeks. Offered: By arrangement. Max. enrollment: 2.

Behavioral Medicine and Psychiatry (B.M.)

Professors Azzaro, Carter, DeVaul, Flink, Kelley, Morgan, Morgan, Quarrick, Stevenson (*Chairperson*), Waldman, and Watne; Associate Professors Claude, Clausell, Colvin, Cone, Ellis, Kelley, Kommor, Linton, Reamy, Robison, Seime, Smith, Tinnin, and Walker; Assistant Professors Bhanot, Desai, Ganahl, King, Nash, G. Owais, W. Owais, and Peoples; Research Assistant Professors C. Sullivan and P. Sullivan; Adjunct Professor Levine; Adjunct Associate Professors Barnette and Elkins; Adjunct Assistant Professors Desai, Faris, Hamilton, Harms, Hobbs, and Stephen; Adjunct Instructor Kent; Clinical Professors Ayd, Bateman, Callahan, Comer, Haynes, Marquis, Mortell, Rossman, Weise, Withersty, and Wurmser; Clinical Associate Professors Collins, Edelstein, Edwards, Faheem, Goodman, Greenwood, Hibbard, Ingersoll, Kerns, Knapp, Nahemow, Panepinto, Settle, Smith, Srebalus, Strokes, Ward, and Zarski; Clinical Assistant Professors Allen, Almond, Brailleur, Capage, Chambers, Davis, Dickey, Donovan, Dunning, Fawley, Fink, Frye, Guy, Hamilton, Hasan, Hill, Hoback, Hutton, Kovacevich, Lavine, Ledwell, MacCallum, McCluskey, McNeer, Morgan, Naviaux, Neilan, Panepinto, Portz, Puzzuoli, Sine, Smith, Smith, Soule, Stein, Tellers, Webb, and Williams; Clinical Instructors Caruso, Fawley, Gantt, and Hunter.

311. *Introductory Psychiatry. (First Year.)* 2 hr. An examination of major clinical syndromes and their biological and environmental concomitants. Introduction to patient care with interviewing techniques and limited patient work-ups under supervision.
321. *Introductory Psychiatry. (Second Year.)* 2 hr. Continuation of B.M. 311 with an in-depth look at more basic science and social science parameters in psychiatry. Additional supervised patient work-ups and presentations.
341. *Clinical Clerkship in Psychiatry. (Third Year.)* CR. Required of third-year medical students. Full-time assignment to the inpatient service in psychiatry and participation in diagnosis and treatment of psychiatric disorders. Emergency Room responsibility.
355. *Behavioral Science and Health Care.* Behavioral science applied to issues related to physical and mental health care. Variety of topics will be considered, such as study of interpersonal roles and games, various cultural "healing" practices, personal and social aspects of illness, family disorganization, and hospitals and related institutions.
399. *Selected Experiences in Behavioral Medicine and Psychiatry. (Fourth Year.)* (See Conjoined Courses.)

Community Medicine (C. Med.)

Professors Pearson (Chairperson) and Mou; Clinical Professor Hansbarger; Adjunct Professors Carlton and Crews; Associate Professors Hall, Fine, and Wyant (Assistant Chairperson); Clinical Associate Professors Cooley, Greenwood, Hinton, Mukkamala, Smith (Emeritus), and Wiles (Emeritus); Adjunct Associate Professors Ames, Brough, Goodwin, and Graham; Assistant Professors Garland and Murray; Adjunct Assistant Professors Attfield, Harper, Patil, Reger, and Sieber; Clinical Instructors Atkins, Lee, and Patton.

311. *Methods of Biostatistics*. I. 3 hr. PR: Math. 3. Basic concepts of statistical models, distributions, probability, random variables, test of hypotheses, confidence intervals, regression, correlation, F and X^2 distributions, analysis of variance with emphasis on methods of biostatistics. (Equiv. to Stat. 311.)
312. *Community Medicine*. (Second Year.) II. 2 hr. Open to limited number of graduate students. PR: Consent. The role of the physician in the prevention of disease and in the examination of health status in a community, with reference to demographic, economic, sociologic, environmental, and occupational factors. The organization of public health and medical care.
322. *Epidemiology and Biostatistics*. (First Year.) II. 2 hr. PR: Consent; medical students only. Epidemiological and statistical analysis of biologic phenomenon as related to medicine. Emphasis on descriptive statistics, analytical epidemiology, statistical inference, measures of association, and evaluation of medical literature.

Conjoined Courses (CC MD)

399. *Selective Experiences in Medicine*. (Fourth Year.) I, II, S. CR. PR: Satisfactory completion of first three years of the medical curriculum. (Graded as S or U.) The selective program offers a wide range of opportunities in the basic sciences, medical specialties, and sub-specialties, and in family medicine. The year is composed of eleven 4-week blocks. Six must be spent at the WVU Medical Center in Morgantown and approved programs at the WVU Medical Center—Charleston Division, WVU School of Medicine. The remainder may be spent at community hospitals in West Virginia, or at university or university-affiliated hospitals out-of-state. Each student plans an individual program, with faculty advice. Flexibility is permitted. With consent of instructors concerned, the student may, during the year, alter the selective choices. The student must give five weeks' notice before changing an intramural or extramural selection. (See the intramural and extramural brochure, published annually, describing the selective opportunities.)

Family Practice

Professors Traubert (Chairperson) and Vazquez; Associate Professors Arbogast, Lewis, and Nesselrode; Assistant Professors Cleavenger, Nath, Palmer, and Swinker; Clinical Professors Davis, Fullmer, Hall, Jackson, Jarrett, Simmons, and Tully; Clinical Associate Professors Brooks, A. Cavender, J. Cavender, Eckert, Hess, Kellas, Mangus, Newman, Rashid, Santrock, and Sinclair; Clinical Assistant Professors Bergman, Clark, Crigger, Dickey, Elliott, Gais, Graham, Hayes, Hinton, Hofreuter, McNeill, Merrifield, Nau, Patton, Perrine, Reed, Ritz, Roberts, Saver, Sine, and Warren; Clinical Instructors Blum, Casto, Conley, Hanna, Harris, Hokanson, Peck, Taylor, and Wack; Patient Educator Murray.

399. *Selected Experiences in Family Practice*. (Fourth Year.) (See Conjoined Courses.)

Medicine (Med.)

Professors M. Albrink, S. Bekheit, R. D'Alessandri (Chief, *Comprehensive Medicine*), A. DiBartolomeo (Chief, *Rheumatology*), E. Flink, A. Jain (Chief, *Cardiology*), J. Jones (Vice-President—*Health Sciences*), R. Khakoo (Chief, *Infectious Diseases*), C. L. Kien (Chief, *Clinical Nutrition*), N. L. Lapp, D. Z. Morgan, E. Morgan, R. Ortel, W. Point

(Assistant Chairperson, Charleston Division), P. Raich (Chief, Hematology/Oncology), S. Shane, (Acting Chairman), J. Shultz (Chief, Medicine, Wheeling Division), J. Stevenson (Chief, Behavioral Medicine/Psychiatry), I. Ullrich, W. Welton (Chief, Dermatology), and F. Whittier; Associate Professors E. Brestel (Chief, Allergy & Clinical Immunology), E. Chideckel, D. Colvin, H. Dedhia, J. Fontana, R. Gaskins (Chief, Gastroenterology), M. Georgiev, S. Grubb, R. Kleinmann, K. Lempert, R. Martin, A. Morise, A. Murgo, E. Petsonk (Acting Chief, Pulmonary Diseases), R. Powers, J. Riggs, P. Robinson, and J. Rogers; Assistant Professors H. Abrons, F. Al-Kawas, J. Bathon, J. Brick, T. Finucane, M. Fisher, E. Funk, T. Hogan, K. Jordan, R. Kovach, R. Layne, L. P. Maxwell, R. McKenzie, A. Moss (Acting Chief, Nephrology), M. Mullins, F. Nullet, J. Neely, F. Oliver, S. Rector, A. Rohrer, S. Schmidt, J. Shamma'a, W. Shockcor, J. Shumway, A. Stern, and E. Weiss; Instructor N. Blehschmidt; Adjunct Professor M. Rothstein; Adjunct Associate Professors M. Counts, T. Hodous, and Rachel Yeater; Adjunct Assistant Professors P. Becker, R. Castellan, and A. Pau; Adjunct Instructors A. Ghio and J. Kostroff; Clinical Professors Emeriti D. Blatchley, C. Johnson, W. Pushkin, and P. Tuckwiller; Clinical Professors S. Artz, M. Avington, W. Carter, D. Gaziano, D. Latos, D. Lee, M. Lewis, R. Marshall, W. McMillan, A. Pfister, R. Point, M. Reiter, W. Revercomb, M. Santer, P. Saville, H. Selinger, J. Skaggs, A. Valentine, and S. Warren; Clinical Associate Professors B. Avashia, D. Basu, J. Byrd, T. Chvasta, H. Ducan, R. Gainer, W. Hall, J. Hartman, B. Houston, H. Jackson, D. Jones, S. Jubelierer, P. Kaplan, C. Kolinier, D. Koppel, D. MacCallum, L. McCabe, B. McJunkin, R. Nestmann, W. Noble, L. Palmer, N. Parsons, M. Patel, J. Previll, R. Rectenwald, J. Schwerha, R. Scobbo, L. Thrush, C. Vasquez, C. Warren, and G. Zaldivar; Clinical Assistant Professors S. Ahmad, R. Altmeyer, J. Arnett, C. Begley, N. Cassis, V. Chokkavelu, C. Cornwell, G. Crotty, P. Cunningham, M. Drews, D. Farmer, R. Gomez, E. Guy, K. Harman, T. Harper, W. Hijab, C. Horan, J. Hortin, R. Iyer, F. Kerns, R. Lamb, A. Lee, R. Lewis, D. Liebeskind, M. Lyons, S. Masilamani, V. Mazzocco, M. McCagh, L. McConnell, S. Mehrotra, D. Namay, K. Namay, M. O'Keefe, B. Pierson, A. Rahman, K. Roberts, M. Roidad, T. Romano, R. Scarr, A. Schaeffer, F. Schwartz, A. Shah, G. Shehl, J. Stone, G. Szezo, G. Thakker, and P. Treharne; Clinical Instructors S. Bivens, D. Green, T. Horiagon, C. Jimenez, R. Lim, A. Miyara, and G. Stark.

321. *Physical Diagnosis—Introduction to Medicine. I, II.* 5 hr. PR: Consent. Examination of normal subjects. Clinical concepts and practical experience in history taking and physical examination.
331. *Clinical Clerkship in Medicine. (Third Year.)* CR. Required of third-year medical students. The individual student is assigned responsibility for specific patients from the in-patient service at University Hospital or Charleston Area Medical Center service. The student is an integral part of the team providing diagnostic and treatment services needed by the patient, under direct supervision of members of the faculty of the department. The student elicits the patient's history, performs physical examinations, and performs or secures indicated laboratory and clinical studies. The student records findings and presents case reports for discussion by members of the faculty during hospital rounds or out-patient clinics. The student attends such staff conferences, etc., as directed by the departments. Clerkship in medicine occupies 12 weeks.
370. *Medical Genetics. II.* 2-4 hr. PR: Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as Gen. 370, Pedia. 370, CC MD 370.)
399. *Selected Experiences in Medicine. (Fourth Year.)* CR. (See Conjoined Courses.)

Neurological Surgery

Professors Nugent (Chairperson), Dunker, and Kaufman.

399. *Selective Experiences in Neurological Surgery (Fourth Year.)* (See Conjoined Courses.)

Neurology (Neuro.)

Professors Azzaro, Gutmann (*Chairperson*), Martin, and Schochet; Associate Professors Dove, Fakadej, and Riggs; Assistant Professors Brick and Corey; Clinical Professors Heck and Poffenbarger; Clinical Associate Professors Crosby, Kettler, and Pratt; Clinical Assistant Professors Govidan, Loudon, Morehead, Morgan, Swisher, and Tellers.

341. *Clinical Clerkship in Neurology. (Third Year.)* CR. Required of third-year students. Basic fundamentals of the neurological evaluation and neurological diseases. Evaluation and treatment of hospitalized patients with neurological illnesses performed under supervision of attending and resident physicians. Conferences and correlative instruction in neuropathology and neuroradiology.
399. *Selected Experiences in Neurology. (Fourth Year.)* CR. (See Conjoined Courses.)

Obstetrics and Gynecology (Obst.)

Professors Butcher, Cox (*Chairperson*), and Granados; Professor Emeritus Fugo; Associate Professors Ashraf, Cruikshank, Foss, Miller, and Reamy; Assistant Professor Toffle; Clinical Professors Behnam, Bonney, Chambers, Elyaderani, Giustini, and Palladino; Clinical Associate Professors Arceo, Battaglino, Clark, Crites, Grubb, Keefer, Maxson, Poole, Stone, Williams, and Withersty; Clinical Assistant Professors Athari, Berry, Cunningham, Curnutte, Georgiev, Hitt, Jacobson, Percy, Sandhu, and Wanger; Clinical Instructors Fulcher and Jones.

341. *Clinical Clerkship in Obstetrics and Gynecology.* (Required of third-year medical students.) Presents core knowledge of obstetrics and gynecology with small group instructional seminars, ward rounds, didactic teaching sessions and grand rounds conducted by faculty, house officers, visiting faculty, and students. Students are involved with care of all patients, participating in an essential role in patient care. Experience extends to outpatient clinics in all aspects of obstetrics and gynecology.
399. *Selected Experiences in Obstetrics and Gynecology. (Fourth Year.)* An elective subinternship in obstetrics and gynecology with major responsibility for patient care beyond that provided during the third-year curriculum. Students participate in outpatient and inpatient care with delegation of responsibility commensurate with level of training and ability. Supervision is provided by house officers and faculty. Greater participation in surgical procedures is provided, as well as active participation in complicated obstetrical patients.

Ophthalmology (Ophthal.)

Professors Weinstein (*Chairperson*) and Colasanti; Associate Professors Linberg and Schwab; Assistant Professors Farber, Jabbour, and Odom; Clinical Professors Magee, O'Connor, Ryan, Trotter, Winkler; Clinical Associate Professors Blaydes, Fritz, Hamrick, Nugent, Raju, Shepherd, Schwab, and Strickland; Clinical Assistant Professors Cassis, Fiery, Fogle, Genin, Pangilinan, Park, Rashid, Strauch, Tarakji, and Toma; Clinical Instructors Francke, Glen, McClure, Minardi, Scheive, and Schieb.

399. *Selected Experiences in Ophthalmology. (Fourth Year.)* (See Conjoined Courses.) Students are presented with the opportunity to acquire clinical skills in ophthalmology including techniques of eye examinations and certain aspects of emergency and elective treatment of eye disorders. There is close supervision by housestaff and members of the full-time ophthalmology faculty. Areas of special faculty interest include glaucoma, corneal diseases, retinal and vitreous diseases, and oculoplastic surgery. There are opportunities for students to participate in basic and clinical research. This experience occupies four weeks and can accommodate a maximum of 2 students and an additional student for a research project.

Orthopedic Surgery (Orth. Surg.)

Professor Radin (*Chairperson*); Professor Emeritus Pickett; Clinical Professor Davis; Associate Professors Blaha and Jones; Clinical Associate Professor Bowers;

Assistant Professors Byrd and Labosky; Clinical Assistant Professor Stoll; Clinical Instructor Kurth.

399. *Selected Experiences in Orthopedic Surgery. (Fourth Year.)* (See Conjoined Courses.)

Otolaryngology (Otolaryn.)

Professors Sprinkle (Chairperson), Cody, and Lass; Clinical Professors Bryant, Hall, and Morgan; Clinical Associate Professors Bland, Cather, Haislip, Hatfield, Jaquiss, Kameron, Lim, Malone, Mathias, Oliverio, Paine, Snider, Spencer, Sporck, Tekieli, Whitaker, and Wilkinson; Assistant Professors Haydon, Corey, and Young; Clinical Assistant Professors Azar, Berryman, Dodd, Haines, Livingstone, Nichols, Riester, Seung, Wade, Wallace, and Wilkinson; Clinical Instructors Hoge and Laurent.

399. *Selected Experiences in Otolaryngology. (Fourth Year.)* (See Conjoined Courses.)

Pediatrics (Pedia.)

Professors Neal (Chairperson), Amato, Hrabovsky, Kelley, Kien, and Klingberg; Associate Professors Dove, Fakadej, Kelley, Mullett, Myerberg, and Wible; Research Associate Professor Connors; Assistant Professors Balian, Desai, Howland, Liechty, and Tarry; Research Assistant Professor Strasburger; Instructor Sutherland; Clinical Professors Hansbarger, Harrison, Jakubec, Potterfield, and Stabins; Adjunct Associate Professor Woodrum; Clinical Associate Professors Ayoubi, Burech, Holyman-Ayoubi, Israel, Kumar, Lewine, and Wolf; Adjunct Assistant Professors Hahon and Hilligoss; Clinical Assistant Professors Barron, Binder, Kossack, Lambrechts, Lawrence, Morgan, Mossahabi, Rhee, Staab, Szego, Verma, and Verma; Clinical Instructors Iskander, Majumder, and Uy.

331. *Clinical Clerkship in Pediatrics. (Third Year.)* CR. Required of third-year medical students. See description of clinical clerkship under Med. 331. Clerkship in Pediatrics occupies 6 weeks.

370. *Medical Genetics. II. 2-4 hr. PR:* Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as CC MD 370, Gen. 370, Med. 370.)

399. *Selected Experiences in Pediatrics. (Fourth Year.)* (See Conjoined Courses.)

Radiology (Radiol.)

Professors Gabriele (Chairperson) and Frich; Associate Professors Jain, Lai, Marano, Sinha, Slack, and Wald; Assistant Professors Barnett, Conn, Higgins, Liu, Mace, Secrist, Willard, and Yoshizumi; Adjunct Assistant Professor Raofi; Clinical Professors Castro, Goodwin, Elyaderani, and Kennard; Clinical Associate Professors Barger, Bishop, W. Hayes, Hogan, Rogers, Sexton, Smith, Wilder, and Williams; Clinical Assistant Professors Abdalla, Briley, Caruso, Cordell, Crossen, Duncan, Francke, T. Hayes, Hetzer, Kalinowski, Kim, King, Koh, Koppikar, Leef, Levy, Marano, Markowitz, Nagarajan, Noble, Patterson, Reddy, Rosenblatt, Stupar, Tanguilig, Wershba, Wheatly, Weimer, Wymer, and Yost.

The radiology staff aids in the instruction of students at all levels of the curriculum. They assist in the teaching of topographic anatomy in the first year. The careful interpretation of roentgenograms is an integral part of each clinical service.

101. *Radiology. Selected experiences in general radiology.*

102. *Neuroradiology. Review of neuroanatomy with respect to application in neuroradiology. Selected experiences in neuroradiology.*

103. *Cardiovascular Radiology. Review of anatomy and embryology. Selected experiences in central and peripheral vascular radiology.*

104. *Radiologic Physics*. Application of physics and mathematics to radiology, nuclear medicine, and radiation therapy.

399. *Selected Experiences in Radiology*. (Fourth Year.) CR (See Conjoined Courses.)

Surgery (Surg.)

Professors Watne (Chairperson), Boland, Hrabovsky, Moran, Murray, Vargish, and Warden; Clinical Professors Bradford (Emeritus), Charbonnietz, Cochran, Ghaphery, Gilmore, Glass, Gray, Hershey (Emeritus), James, Kappel, J. Khan, M. Khan, King, Lawton, Leadbetter, Linger (Emeritus), MacDonald (Emeritus), McConnell, Mendoza, O'Dell, Trenton, and Walker; Associate Professors Covey, Foshag, Kusminsky, McDowell, Savrin, Quinlan (Adjunct), and Savrin; Clinical Associate Professors Aburahma, Bock, Boustany, Dickey, Griswold, Harrison, Lee, Looby, Mantz, Markey, Polack, Rahbar, Riggs, Schaefer, Shabb, Surmonte, Suson, Trammell, Valasquez, Voss, and Williamson; Assistant Professors Apelgren, Bonitatibus, Gustafson, Hill, Rector, and Swanson; Clinical Assistant Professors Al-Hajj, Amores, Barcinas, Capito, Chang, Cone, Cross, Dickie, Elliott, Fedde, Fedder, Figueroa, Foster, Getty, Grant, Heiskell, Isa, Johnson, Kalla, Kessel, Khoury, Kim, Kite, Kress, Kuban, Mahan, McLellan, Mossallati, B. Page, J. Page, Porcaro, Rao, Rashid, Reed, Robinson, Sampath, Scheler, Seidler, Shackelford, Vaghei, Veach, Walmsley, and Waluzak; Instructors Blum, Tiley, and Vaughan; Clinical Instructors Cowan, Dasari, Holland, Neri, Patel, Staggars, Strauch, and Tolliver.

341. *Clinical Clerkship in Surgery*. (Third Year.) CR. Required of third-year medical students. Clinical clerks are assigned responsibility for hospitalized surgical patients under supervision of house staff and attending surgeons. Students are an integral part of the team providing diagnostic and treatment services and are expected to take histories, perform physical examinations, and participate in ward and laboratory procedures. A course of surgical lectures, designed to outline surgical core curriculum, is given concurrently. The student is expected to attend the daily rounds and conferences arranged by the department.

399. *Selected Experiences in Surgery*. (Fourth Year.) (See Conjoined Courses.)

Urology (Urol.)

Professors Belis, Kandzari, Lamm (Chairperson), and Milam; Assistant Professor Tarry; Clinical Professors McCuskey and Summers; Clinical Associate Professors Durig, Lane, Lindert, McCoy, and Trapp; Clinical Assistant Professors Beneke, Belis, Celis, Cricco, Kassiss, Lee, Naranjo, Palmer, Ravitz, Recht, Serrato, Shannon, and Stoughton; Clinical Instructors Bailey, Farsaii, McClellan, Rushanaedy, and Vaidya.

399. *Selective Experiences in Urology*. (Fourth Year.) (See Conjoined Courses.)

Medical Technology Undergraduate Program

The undergraduate program in medical technology is under the administration of the School of Medicine. Students are admitted into the program leading to a bachelor of science degree after the completion of two years of premedical technology in an accredited college or university. The WVU Medical Technology Program is accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association. Graduates are eligible for certification by the Board of Registry of the American Society of Clinical Pathologists (ASCP) and by the National Certification Agency for Medical Laboratory Personnel (NCA).

The undergraduate curriculum includes the premedical technology program, which is offered in the WVU College of Arts and Sciences and at Potomac State College in Keyser and the medical technology program which is offered in the School of Medicine.

Courses of the first two years (premedical technology) may be taken in any institution of recognized standing that offers the courses required for admission into the medical technology program.

Since the course of study of the last two years is of a professional nature, students must be enrolled in the WVU School of Medicine for this entire period. The work of the junior year (the first year in the medical technology program) includes courses which introduce the student to the medical sciences and courses which prepare the student for the work of the senior year. During the senior year (the second year in the medical technology program) the student receives both didactic instruction and practical experience in the University Hospital laboratories.

Aim and Purposes

The primary aim of the program in medical technology at WVU is to provide a strong undergraduate educational program in medical technology which leads to a bachelor of science degree and which provides an educational background compatible with the demands placed upon the medical technologist by the ongoing technologic revolution in laboratory medicine.

The purposes are: (1) to provide a program in medical technology which meets the academic standards of the University; (2) to provide graduate medical technologists for clinical, public health, and research laboratories; (3) to provide an educational background which enables graduates to prepare for teaching and supervisory positions in medical technology; and (4) to provide an educational background acceptable for graduate work in the medical sciences.

A program for certified medical technologists, who desire to complete requirements for a Bachelor of Science degree is available. (Further information may be obtained by contacting the Medical Technology Programs Office.)

Admission

Application for admission into the junior year (first year in the undergraduate medical technology program) should be made before the beginning of the second semester of the sophomore year in college. *Students at WVU or Potomac State College are not transferred automatically from the preprofessional course (first two years) to the professional course (third and fourth years.) Students are selectively admitted to the program for their final two years of work.*

Application forms for admission to the professional course are available after December 1 from the office of the Assistant to Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. These forms should be completed and returned to that office no later than January 15, if the student expects to enter the succeeding first semester classes.

Admission to the third year is on the recommendation of the Admissions Committee to the Dean. A personal interview with the Committee is required.

Admission Requirements

Complete information concerning WVU admission, fees and costs, registration, regulations, etc., may be found in the *WVU Undergraduate Catalog*, College of Arts and Sciences section.

(a) Admission requirements for the first year (premedical technology) are those for the College of Arts and Sciences.

(b) Admission to the third year (first year of the medical technology program) is based upon two years of college work with a total of 62 hours as follows:

English. 6 hours. (Composition and rhetoric.)

Biological Science. 8 hours. (General biology or general zoology.)

Chemistry. 15-16 hours. (Inorganic chemistry, 8 hours; quantitative analysis, 3-4 hours; organic chemistry, 4 hours.) (Transfer students are required to have a complete course in organic chemistry to include aliphatic and aromatic compounds, 8 hours.)

Physics. 8 hours.

Mathematics. 3 hours. (College algebra is the minimal course requirement.) Trigonometry, or higher mathematics, is recommended.

Electives to complete the required hours and to meet WVU Core Curriculum requirements.

Courses such as bacteriology, parasitology, and anatomy should not be taken until after the completion of the sophomore year. A foreign language is recommended for students who plan to do graduate work.

Admission to the Program

1. Applicants should have a minimum grade-point average of 2.5 (cumulative and science). Applicants with less than a 2.5 grade-point average (either cumulative or science) may be admitted on probation. The cumulative grade-point averages for probation are based on all completed prerequisites. Applicants with less than a 2.0 grade-point average, either cumulative or in the sciences, will not be admitted. A grade-point average of 2.5, or above, does not necessarily assure admission.

2. References will be reviewed and considered.

3. Applicants admitted to the program must maintain a grade-point average of 2.0 each semester. Students in the Medical Technology Program are expected to conduct themselves in a manner consistent with the ethics of the profession.

4. Admission of international students to the program will also be in compliance with regulations of the WVU *Undergraduate Catalog*. Excerpts are as follows:

"International students should make all arrangements for their financial obligations to WVU and for their entire stay in the United States before leaving their country.

"Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

"Credentials—Complete and original official records of all studies undertaken by an applicant at any institution attended (secondary school, college, university, technical school, professional school, etc.) must be provided at time of application for admission to WVU. Copies of original records are acceptable, provided they are officially stamped.

"Such records should include: (1) complete dates of attendance; (2) identification of individual subjects; (3) total number of hours in each class

per week; (4) total number of weeks each class meets in session; (5) final grade in each subject, for each year; (6) actual credits earned for each subject; (7) class, division, or rank achieved; (8) identification of the individual; (9) explanation of each institution's grading system; and (10) certification, and date, of degrees or awards achieved. If any of this information cannot be supplied, an official explanatory statement from the school should be submitted. *(All documents must be accompanied by certified English translations.)*"

5. Applicants completing or transferrring credits to WVU must include a transcript of at least one science course (chemistry, physics, or biology) completed at an institution of higher education in the United States.

Academic Advancement and Standing

Junior Year—(First Year in the Medical Technology Program)

1. Any student having one or more Fs or more than 2 Ds at the end of the junior year will be suspended from the program.

CURRICULUM PLAN			
Premedical Technology			
First Year			
First Semester	Hr.	Second Semester	Hr.
Chem. 15—Inorganic	4	Chem. 16—Inorganic	4
Elective*	3	Engl. 1—Comp. & Rhet.....	3
Math. 3, 4, or higher	3	Elective*	3
Biol. 1	4	Biol. 2	4
M. Tec. 1**	1	M. Tec. 2**	1
	15		15
Second Year			
First Semester	Hr.	Second Semester	Hr.
Chem. 115—Analytical	4	Chem. 131—Organic	4
Electives* or M. Tec. 3**	6-7	Electives*	7-9
Phys. 1	4	Phys. 2	4
Engl. 2—Comp. & Rhet.....	3		
	17-18		15-17

*Electives from Group A and Group B are to be selected to meet University Core Curriculum requirements.

**M. Tec. 1 and 2 are not required subjects. It is highly recommended that all students take these courses. M. Tec. 3 may be taken in the sophomore year if electives are completed.

Medical Technology			
Third Year (Medical Technology I)			
First Semester	Hr.	Second Semester	Hr.
M. Tec. 100	4	Parasitol. 224	4
Bioch. 139	5	M. Bio. 223	5
Physi. 241	4	Bioch. 239	4
Elective	3	M. Tec. 101	4
	16		17

2. Academic due process will be followed when students are suspended from the program.
3. No student with a grade-point average of less than 2.0 will be advanced to the senior year. A student admitted to the senior year with any grade of I (Incomplete) must satisfactorily remove the Incomplete within the following semester, unless permission for an extension is granted by the Senior Year Committee on Academic Standards.
4. No student will be advanced to the senior year unless recommended by the Junior Year Committee on Academic Standards regardless of academic average.

Second Year

1. To successfully complete the senior year, a student must maintain an overall grade-point average of 2.0 for each semester of the senior year.
 2. The faculty of the program may suspend or place on probation at anytime a student who is not maintaining a 2.0 grade-point average.
 3. If, in the judgment of an instructor, a student demonstrates a marked lack of understanding of course material, even though the student has an acceptable didactic average, a grade of I (Incomplete) will be submitted for that student. It is the student's responsibility to consult with the instructor for removal of an Incomplete.
- An Incomplete grade must be removed within the following semester or will be recorded as F unless an extension has been petitioned for by the student and granted by the Senior Year Committee on Academic Standards.

Fourth Year (Medical Technology II)

Students receive didactic and clinical instruction in the University Hospital laboratories after completion of the junior year. The course of study begins with the summer session and covers three academic semesters. If the student has excessive absences during the senior year, the time loss must be made up at the end of the school year.

Students register for the following courses during the three semesters of study.

	Hr.
M. Tec. 200—Orientation	No Credit
M. Tec. 220—Immunohematology and Blood Banking	2
M. Tec. 221—Immunohematology and Blood Banking Laboratory	5
M. Tec. 230—Clinical Chemistry	2
M. Tec. 231—Clinical Chemistry Laboratory	5
M. Tec. 240—Clinical Hematology	2
M. Tec. 241—Clinical Hematology Laboratory	5
M. Tec. 250—Clinical Microbiology	2
M. Tec. 251—Clinical Microbiology Laboratory	5
M. Tec. 260—Instrumentation	2
M. Tec. 265—Laboratory Management	2
M. Tec. 270—Clinical Microscopy	1
M. Tec. 271—Clinical Microscopy Laboratory	1
M. Tec. 275—Clinical Histopathology	1
M. Tec. 276—Clinical Histopathology Laboratory	1
M. Tec. 280—Clinical Immunology	2
M. Tec. 290—Scientific Research and Writing	1-4

4. Graduation requires completion of all academic work in a satisfactory manner and recommendation of the faculty of the School of Medicine.

5. If in the judgment of the faculty a student's overall performance is not consistent with good patient care or the public interest (regardless of grade-point average), the student may be suspended or required to do remedial work.

6. To suspend a student with an acceptable grade-point average requires appropriate documentation and recommendation from two thirds of the faculty in the program of medical technology.

7. Academic due process will be followed when students are suspended.

8. Any student who withdraws from the program in the senior year for any reason must petition the faculty in medical technology for readmission if such is desired.

Degree

The degree of Bachelor of Science in Medical Technology is granted to those students who have completed the prescribed curriculum and who have been recommended for the degree by the faculty of the School of Medicine.

Graduate Program

The WVU Medical Technology graduate program prepares graduate medical technologists for positions either as administrators and teachers in medical technology educational programs, or as supervisors in special areas of the clinical laboratory. The primary objective is to assist in development of knowledge in an area in administration, in education, or a special area of interest selected by the student which may be a special medical laboratory science as the specific area applies to laboratory medicine. Specializations include clinical chemistry, clinical microbiology, hematology, and immuno-hematology. The specific course work requirements for the master of science degree rests with the graduate adviser in the student's specific area of interest.

Graduate Committee: Professors J. Holter, R. Iammarino, S. Jagannathan, H. Mengoli, D. Moore, Jr., and N. Rodman.

Admission (M.S.)

Applicants must have a baccalaureate degree in medical technology from an accredited institution or a baccalaureate degree in an allied field and be a certified medical technologist with an acceptable certifying agency.

The area of concentration in medical technology desired by the student is considered in the evaluation of the undergraduate record as follows:

1. Individuals who desire to do special study in clinical chemistry, hematology, or immuno-hematology must have completed a minimum of 8 hours of physics, 3 hours of mathematics, 4 hours of organic chemistry, and 4 hours of quantitative chemistry on the college level.

2. Individuals who desire to do special study in microbiology must have completed 4 hours of organic chemistry and 16 hours of biological sciences.

3. A minimum of one year's experience in a clinical laboratory is required for admission.

Students will be required to make up deficiencies in the above, as well as other deficiencies deemed necessary by the adviser.

Applicants must have a minimum undergraduate grade-point average of 2.5 (based on A equals 4.0 grade points) for admission.

All applicants to the graduate program are required to take the general aptitude part of the Graduate Record Examination. Results should be sent to the Medical Technology Programs Office, West Virginia University, Morgantown, WV 26506.

Two letters of reference must be on file in the Medical Technology office. One letter should be from the major adviser in the undergraduate college and another from the immediate supervisor of the applicant's present position. An interview will be requested for all applicants who meet the requirements for admission.

Applicants are selected for admission on the basis of scholastic standing, recommendations, and interest in the field of medical technology. The number of applicants accepted is necessarily limited by the available facilities; and in general, applicants with the most experience are considered first.

Application Procedure

A preliminary application is filed in the Medical Technology office.

Letters of recommendation are sent to the Medical Technology Programs Office.

After approval of the preliminary application, the admission procedure is the same as for other programs in WVU graduate studies.

A personal interview may be required before final admission to the program. This interview will give the graduate student an opportunity to evaluate the program and to determine if the program will offer the educational opportunities which the student desires.

Course of Study

It is expected that the students who enter the graduate program in Medical Technology will have a goal in mind and a special field of interest in medical technology. The program is tailored to the needs of the student as far as possible. A minimum of 36 semester hours of credit including a research problem is required. The student selects a major area of concentration from either education, supervision, or administration, and a minor area from clinical microbiology, clinical chemistry, clinical hematology, or immunohematology.

A minimum of 12 semester hours of course work in education to include the following is required of all students:

(A). The three following courses are required:

Ed. P. 320—Introduction to Research	3 hr.
Ed. P. 330—Advanced Education Measurements	3 hr.
Ed. F. 320—Philosophic Systems and Education	3 hr.

(B). The student selects one of the following:

Hl. Ed. 305—Philosophy of Health Education	3 hr.
BAHR 260—Media and Microcomputers in Instruction	3 hr.
BAHR 360—Behavior Analysis: Teacher/Training Systems	3 hr.
BAHR 361—Cybernetic Systems of Individualized Instruction	3 hr.
Ed. P. 450—Psychological Foundations of Learning	3 hr.
Ed. P. 451—Principles of Instruction	3 hr.
Ed. A. 330—Principles of Education Leadership	3 hr.
Ed. A. 331—Principles of Supervision	3 hr.
Ed. F. 300—Sociology of Education	3 hr.

(C). Ed. P. 311 (Statistical Methods), Stat. 311 (Statistical Methods), or C. Med. 311 (Biostatistics), is strongly recommended.

Other courses to complete 36 semester hours are selected by the student (with the help of the adviser) in the area of concentration selected by the student. Students may select courses in departments in schools other than the School of Medicine.

All students must complete a minimum of 18 semester hours in a science related to medical technology including Seminar (3 hr.) and Problem Study (6 hr.).

All students must rotate for orientation purposes through all sections of the University Hospital Clinical Laboratories to include microbiology, hematology, chemistry, immunohematology, and histopathology for a minimum of two days in each laboratory or a total of ten days.

In addition, at the discretion of the student's adviser, other requirements in teaching, supervision, and administration may be necessary.

The adviser works out with the student a plan of study for the entire graduate program. This plan is usually made at the end of the first semester of the student's graduate study. A copy of this "plan of study" is signed by the adviser and student and sent to the Medical Technology Office to be put in the student's file.

Examinations

A final written comprehensive examination in the major and minor interest areas is given approximately one month before the oral defense.

An oral defense of the problem is given one month after submission of the Problem Study in its final form to the student's Graduate Committee.

Requirements for Degree

All requirements for the master of science degree, as outlined in the WVU *Graduate Catalog*, must be fulfilled. These requirements can be fulfilled in three semesters of full-time work, but ordinarily at least four semesters are required for completion of the degree requirements.

Degree candidates must have a 3.0 grade-point average and must have removed all incomplete grades and deficiencies.

All students must complete a problem study (see M. Tec. 497).

Medical Technology (M. Tec.)

Professor Emeritus Love; Professor Moore; Associate Professors Gutman, Henderson, Holter, and Sharpe; Assistant Professor Reynolds; Instructor Blehschmidt.

1. *Orientation to Medical Technology*. I, II. 2 hr. Introduction to the profession of medical technology and the clinical laboratory specialties.
100. *Medical Technology*. I. 4 hr. Gross and microscopic structure of human body as it applies to the practice of medical laboratory technology.
101. *Medical Technology*. II. 4 hr. Continuation of M. Tec. 100.
200. *Orientation*. S. No credit. (For senior students.) Principles and practices of medical technology in relation to the hospital and clinics.
220. *Immunohematology and Blood Banking*. I, II. 2 hr. Lectures on immunohematology and blood banking theory and practice.
221. *Immunohematology and Blood Banking Laboratory*. Arranged. 5 hr. Clinical laboratory practice in blood banking procedures. Emphasis on procedures required for collection and preparation of blood and blood components for transfusion, special techniques, antibody studies, and problem solving.
230. *Clinical Chemistry*. I, II. 2 hr. Lectures on principles of clinical chemistry procedures; their clinical significance and implication in diagnosis.

231. *Clinical Chemistry Laboratory*. Arranged. 5 hr. Practice in the clinical chemistry laboratory.
240. *Clinical Hematology*. I, II. 2 hr. Lectures in hematologic theory and practice.
241. *Clinical Hematology Laboratory*. Arranged. 5 hr. Application of hematological principles to laboratory medicine. Emphasis on routine and specialized procedures, evaluation and problem solving.
250. *Clinical Microbiology*. I, II. 2 hr. Presentation and discussion of current methodology employed in the processing of clinical microbiology specimens, isolation and identification of pathogenic microorganisms, and determination of antimicrobial sensitivities.
251. *Clinical Microbiology Laboratory*. Arranged. 5 hr. Practice in the clinical microbiology laboratory to include isolation and identification of microorganisms; processing of specimens and antibiograms. Includes experiences in pathogenic mycology and parasitology.
260. *Instrumentation*. I, II, S. 2 hr. Principles of clinical laboratory instrumentation for medical technologists including principles of operation, maintenance, and troubleshooting.
265. *Laboratory Management*. I, II. 2 hr. Laboratory organization, economics, ethics, and records.
270. *Clinical Microscopy*. I, II, S. 1 hr. PR: Senior standing in Medical Technology or consent. Lecture to cover the screening of body fluids (urine, gastric juices, etc.) for abnormalities and pregnancy testing.
271. *Clinical Microscopy Laboratory*. I, II, S. 1 hr. PR: Senior standing in Medical Technology, or consent. Laboratory practicum in urinalysis, gastric analysis, pregnancy tests, and other procedures.
275. *Clinical Histopathology*. II. 1 hr. PR: Senior standing in Medical Technology. Lectures in pathological entities encountered in the clinical laboratory.
276. *Clinical Histopathology Laboratory*. I, II, S. 1 hr. PR: Senior standing in Medical Technology. Principles and mechanisms of staining and histochemistry to demonstrate specific tissue and cellular elements and to recognize the relationship of pathological changes in tissues to laboratory findings. (1 hr. lab.)
280. *Clinical Immunology*. I, II, S. 2 hr. Lectures and laboratory practice in the principles of clinical immunology and their relationship to clinical laboratory technology.
290. *Scientific Research and Writing*. I, II. 1-4 hr. Conducting a scientific research project in medical technology and writing a scientific article for publication. Oral presentations are included.
300. *Seminar*. I, II, S. 1 hr. Seminars include topics in laboratory management and education in medical technology, and timely topics. Minimum of 3 semester hours to include all three topics is required of all graduate students in the medical technology program.
491. *Advanced Study*. I, II, S. 1-6 hr. Investigation in advanced subjects which are not covered in regularly scheduled courses. Study may be independent or through specially scheduled lectures.
497. *Research*. I, II, S. 1-15 hr. Student is required to pursue study on a problem in the student's area of concentration. This study is reported in a thesis-style manuscript. For this study and report, the student registers in M. Tec. 497. Total number of hours earned in M. Tec. 497 is determined by the student's adviser. As many as 9 semester hours may be taken during one semester or, by arrangement with the adviser, credit hours may be taken over several semesters. In the final compilation for degree requirements, only 6 semester hours in M. Tec. 497 will be counted toward fulfillment of the 36 required semester hours for the degree even though the student may have registered for as many as 15 hours in M. Tec. 497.

Division of Physical Therapy

The Division of Physical Therapy, under the auspices of the School of Medicine, offers the final two years of a baccalaureate program leading to a degree in physical therapy.

The first two years of study may be completed in the WVU College of Arts and Sciences, or any other accredited institution which offers courses comparable to the admission requirements of the Division of Physical Therapy. To be eligible for a degree a student must complete the final two years of the curriculum at WVU.

Admission to the third year is based upon 62 or more credit hours of study which satisfy the University Core Curriculum requirements and the prerequisites, or their equivalent, of the Division of Physical Therapy. *Registration in the first two years does not automatically assure the student a place in the junior class. A student will be accepted on a competitive basis and selection will be based on scholastic standing and on those personal characteristics which are desirable in physical therapists.*

The student must satisfactorily complete a period of clinical internship before the awarding of the baccalaureate degree. Expenses incurred during this time (room, board, and transportation) must be borne by the student. A Certificate of Proficiency in Physical Therapy then will be awarded which entitles the graduate to seek membership in the American Physical Therapy Association and to become eligible for state licensure for the practice of physical therapy. A physical therapist can practice professionally only after meeting examination and other licensure requirements in the state where employment is desired.

Admission to the Professional Program

A personal interview with the Admissions Committee is required. Only those students who have at least a 2.6 grade-point average and a 2.75 science average (on a 4.0 scale) and who will have completed all the prerequisites (with a C or better) of the Division of Physical Therapy by the current spring semester will be interviewed. In addition to satisfying the prerequisite and Core Curriculum requirements, the applicant to physical therapy must also have: (1) volunteer or work experience in physical therapy and (2) scores on the Allied Health Professions Admission Test (given at major universities) which must be submitted to the Division of Physical Therapy. The Admissions Committee will advise the applicant of the time and place for the interview. Individuals who do not meet the above requirements but who believe extenuating circumstances justify admission may petition the Admissions Committee for an interview. Reasons why the application should receive special consideration should be clearly stated in the petition.

Official enrollment forms are available at the Office of the Assistant to the Director, Admissions and Records, WVU Medical Center, Morgantown, WV 26506, beginning December 1 of each year. Application forms should be returned no later than March 1 in the year admission is desired.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants who have attended West Virginia schools/colleges or have other state ties will be considered.

Academic Standards

Clinical Education Program

Students must satisfactorily complete the pre-internship clinical education program. During this time students will be expected to defray any and all costs of the program. The Clinical Internship Program is scheduled in the summer of the Senior Year. Before the student is allowed to leave for clinical internships the student must: (1) have completed *all* academic requirements of the program satisfactorily; (2) be of good health and have a full health insurance policy which will be in effect the entire internship period; (3) be prepared to defray the following types of costs: tuition, travel, room and board, and any incidental cost.

Promotions and Dismissals

1. Students admitted to the Physical Therapy Professional Program must register for all prescribed courses for each term.

2. To progress in the professional sequence, a grade of Pass, C or above must be earned in all required courses and in each segment of each course. Students who receive a final grade of D or F in any required course or segment of a course in the physical therapy curriculum will be dismissed from the program and will not be allowed to progress in the professional sequence.

3. A student who is unable to complete a course may, at the discretion of the course instructor, receive a grade of Incomplete (I). The grade of I must be changed to Pass, C or above before the beginning of the next term of the program. Students who have not completed all courses of a term satisfactorily will not be allowed to progress to the next term of the professional sequence and will be dismissed from the program.

4. A student who is performing unsatisfactorily in a course or segment of a course, at the discretion of the course instructor, be allowed to complete additional study or other assignments in order to demonstrate acceptable performance in that course or segment. Such additional study or assignments must be completed and the final course grade recorded before the beginning of the next term of the program.

5. It is the responsibility of the student to present to the course instructor a plan for removal of a grade of Incomplete and/or for demonstration of acceptable performance in a course or segment of a course. The instructor is not obligated to accept the plan proposed by the student.

6. Students must maintain a grade-point average of 2.5 in all required courses of the physical therapy professional program. A student whose grade-point average in the program falls below 2.5 will be dismissed. If the student has no grades of D or F, he/she may petition the Division Committee on Academic Standards to be placed on probation for the following term. If probation is granted, the program grade-point average must be raised to 2.5 or above by the end of the probationary term or the student will be dismissed from the program.

7. The Division of Physical Therapy reserves the right to suspend or dismiss any student who does not perform at an overall level considered satisfactory for patient care.

8. A student may appeal policies enforced by the Division of Physical Therapy through the WVU appeal process as outlined in the *WVU Student Handbook*. A student who has been dismissed from the program may apply to the Admissions Committee of the division for readmission.

Curriculum Plan

This curriculum is designed to satisfy the course requirements for admission to the professional portion of the curriculum in Physical Therapy offered by the School of Medicine. The Core Curriculum requirements must be satisfied, and a total of 62 hours is required for admission to the first professional year. This suggested curriculum plan allows latitude in career choice and is basically compatible with various curricula in the arts and sciences.

First Year

First Semester	Hr.	Second Semester	Hr.
Psych. 1**	3	Engl. 1	3
Chem. 15**	4	Chem. 16**	4
Biol. 1**	4	Biol. 2**	1
Electives*	6	Electives*	6
	17		17

Second Year

First Semester	Hr.	Second Semester	Hr.
Engl. 2	3	Psych. Elect.**	3
Psych. 141**	3	Phys. 2**	4
Stat. 101**	3	G.P.E. 2	1
Phys. 1**	3	Electives*	9
G.P.E. 1	1		
Electives*	3		
	17		17

Third Year

First Semester	Hr.	Second Semester	Hr.
Path. 128	2	Anat. 102	3
Anat. 101	4	Anat. 108	2
Physi. 241	4	Ph. Th. 110	3
Ph. Th. 111	4	Ph. Th. 112	3
Ph. Th. 117	1	Ph. Th. 114	2
		Ph. Th. 116	1
		Ph. Th. 118	3
	15		17

Fourth Year

First Semester	Hr.	Second Semester	Hr.
Ph. Th. 271	4	Ph. Th. 270	3
Ph. Th. 273	3	Ph. Th. 272	2
Ph. Th. 275	3	Ph. Th. 274	4
Ph. Th. 277	3	Ph. Th. 276	3
Ph. Th. 279	4	Ph. Th. 278	5
Ph. Th. 281	1	Ph. Th. 282	1
	18		18

Summer

	Hr.
Ph. Th. 290	3-6

*Electives: Students are required to satisfy University Core Curriculum requirements. In addition, these electives are suggested: Nutr. 71; Biol. 166; Psych. 242, 243, 245, 281, 282; Spch. 11, 106, 221.

**Courses required for admission to the Division of Physical Therapy.

Courses of Instruction in Physical Therapy (Ph. Th.)

Professors Burkart (*Director*) and Petronis; Adjunct Professor Nelson; Associate Professors Barnes and Hart; Adjunct Associate Professor Weaver; Assistant Professor Harris; Instructor Gazsi.

(Courses included in the physical therapy curriculum, but not listed here, may be found in the Basic Sciences section of this catalog.)

110. *Functional Anatomy*. II. 3 hr. The musculoskeletal and neuromuscular systems including biomechanics, principles of movement, and analysis of muscle and joint action. Abnormal function due to physical disabilities and pathological disturbances. Students study normal human development and maturation through laboratory sessions involving evaluation and observation of children ranging in age from newborn to 5 years.
111. *Physical Therapy Principles and Physical Agents*. I. 4 hr. PR: Biol. 1, 2; Chem. 15, 16. Lecture-laboratory introduction to physical therapy and orientation to patients. Safety procedures, gait training, and nursing procedures related to physical therapy orientation to theory and application of hydrotherapy, thermotherapy, cryotherapy, actinotherapy, massage, and ultrasound are presented.
112. *Pulmonary Physical Therapy*. II. 3 hr. Correlation of anatomy, physiology, pathology, and treatment of pulmonary conditions. Laboratory in pulmonary evaluations and respiratory treatment procedures. Lectures and case presentations in medicine and surgery concerning chest and thoracic conditions.
114. *Medicine and Neurology*. II. 3 hr. PR: Ph. Th. 111. Lectures in medicine including dermatology, aging, neurology, pharmacology and vascular disorders.
116. *Clinical Education 1*. II. 1 hr. Students perform basic treatment procedures under the supervision of experienced therapists in various clinics. (*Graded Pass-Fail only*.)
117. *Seminar*. I. 1 hr. PR: Ph. Th. 111. Investigation of selected problems and issues.
118. *Basic Therapeutic Exercise*. II. 3 hr. This course includes the application of principles and techniques of traditional forms of anaerobic and aerobic exercises and goniometry. Isotonic, isometric, and isokinetic exercises are presented with an emphasis on the understanding of human cardiopulmonary functions under the stress of motor activity. Laboratory work in the application of basic exercises and pertinent cardiopulmonary stress tests is included.
120. *Human Development*. I. 3 hr. PR: Physical therapy students only. Presents human development across the life span with a special emphasis on neuromotor development. Topics include genetics, embryology, infancy, childhood, adolescence, adulthood, and death.
270. *Organization and Management*. II. 4 hr. PR. Ph. Th. 275, 281. Basic principles and philosophy of management and the organization with emphasis on styles of leadership, group dynamics, theories of motivation, delegation of responsibility and authority, conflict management, verbal and nonverbal communications, decision analysis and fiscal management.
271. *Electrotherapy and Electromyography*. I. 4 hr. Orientation to theory and application of electrical currents. Laboratory experience in electrical diagnosis and treatment procedures. Basic principles and actual clinical experience with patients offered in electromyography, including nerve conduction and needle insertion studies. Use of electrical stimulation for pain control is also explored.
272. *Professional and Community Relationships*. II. 2 hr. Community health organization, including local, state, and national facets such as Medicare-Medicade and welfare. Planning based on chronic disease epidemiology. Role of physical therapist and other allied health personnel in providing comprehensive health care for chronically ill and geriatric population. Students become involved in care of the home-bound.

273. *Physical Evaluation. I.* 4 hr. PR: Ph. Th. 110, 118. Principles and techniques of performing evaluation testing procedures within the scope of the physical therapist, including manual muscle testing, neurological, ADL, and basic orthopedic evaluations.
274. *Orthopedic Physical Therapy. II.* 3 hr. PR: Ph. Th. 110, 118, 273. Selected lectures and cases in orthopedics. Emphasis on effects and treatment of disease and injury to musculoskeletal and neuromuscular systems. Laboratory practice in orthopedic assessment and procedures, including mobilization techniques.
275. *Professional Literature and Research. I.* 3 hr. Current literature method writing, statistics, and introduction to research methodology. A senior project is required.
276. *Elective Study. II.* 3 hr. Highly skilled techniques used in physical therapy are many and varied. It is beyond the scope of any baccalaureate program to offer such skill to every student in all areas. Therapists are beginning to specialize in certain areas. The student chooses a particular area and develops it to the student's fullest capabilities in the allotted time.
277. *Clinical Teaching. I.* 2 hr. Emphasis on the physical therapist fulfilling numerous teaching roles. Students develop skill and techniques in the facilitation of learning, objective writing, A-V utilization and development of evaluation tools for both clinical and didactic settings.
278. *Correlative Rehabilitation. II.* 5 hr. Lecture, case presentations, and laboratory practice concerning the pathology, evaluation, and treatment in the areas of spinal cord injuries, amputations, and burns. Underlying philosophy and principles of comprehensive care of the handicapped. Prosthetics, orthotics, bowel and bladder training, assistive and supportive devices, and wheelchair evaluations.
279. *Advanced Therapeutic Exercise. I.* 4 hr. Correlation of the basic principles acquired from study of gross anatomy, neuroanatomy, pathology, physiology, and functional anatomy with the scientific application of bodily movement. In-depth study of types and desired effects of exercise and methods and techniques primarily concerned with neuromuscular re-education. Laboratory practice consists of application of specific neurophysiological techniques to patients presented with various neuromuscular problems.
281. *Clinical Education 2. I.* 1 hr. Continuation of Ph. Th. 116. The student's participation in treatment programs is increased and enlarged to include basic testing and evaluation procedures. (*Graded Pass-Fail only.*)
282. *Clinical Education 3. II.* 1 hr. Supervised experience in more specialized procedures and testing techniques and patient program design. (*Graded Pass-Fail only.*)
290. *Clinical Education 4. S.* 1-12 hr. Three full-time summer affiliations of six to eight weeks each in a variety of extramural facilities, such as a general hospital, children's facilities, rehabilitation services, and public health. (*Graded Pass-Fail only.*)

School of Nursing

Philosophy

Nursing shares with other disciplines the overall purpose of the health care system in assisting clients to attain, regain, and retain optimal health. Specifically, the purpose of nursing is to assist clients wherever they are, in the performance of those activities contributing to optimal health (or a peaceful death) the clients would normally initiate and perform unaided if they had the necessary strength, knowledge, and motivation.

The practice of nursing embodies a holistic concept of man. This concept is derived from a synthesis of general education and nursing education. General education is that component of learning derived from the whole of knowledge and truth that is not specialized or particular to any field but which supports many fields. It provides the individual with basis for moral grounding, with a knowledge of man and the universe, a basis for understanding of self and others, as well as an appreciation of the past, an understanding of the present, and the process for predicting the future. These primary concepts form a foundation for subsequent learning in the applied discipline of nursing. Nursing education is that process by which the nurse continually synthesizes the conceptual base, while developing and applying one's intellectual, interpersonal, and technical skills in assisting individuals, families, and communities to meet their health needs. This process unifies practice, teaching, and research in the advancement of nursing.

The faculty believes that man is a physiological, psychological, social and spiritual being, capable of rational thought and action. Throughout the life span, one progresses through developmental stages and continually strives to meet basic human needs in a uniquely patterned way. Within the context of socio-cultural backgrounds, individuals perceive and respond to stimuli as integrated wholes. Individuals maintain basic human integrity through the process of dynamic continuous interaction with their internal and external environment.

Man is a member of innumerable systems within a total society which is organized to meet client recognized needs, with the family being the primary system for meeting health needs. Society organizes health care systems to assist the family in meeting the health needs of its members. Each person has the right of access to those resources which will assist in attaining and maintaining optimal states of health.

Health is a dynamic state which constantly fluctuates among varying degrees of wellness and illness. Health states embody physiological, psychological, social, and spiritual dimensions. The optimal state of health which can be attained and maintained is unknown but is influenced by genetic endowment, the environment in which individuals live, and their ability to cope with actual and potential stresses.

The faculty believes learning is a life-long process, enhanced by a climate of personal acceptance of the learner as an integrated being with internal motivation, attributes, dignity, and worth. Learning is a progressive and cumulative experience resulting in changed behavior which becomes useful in subsequent learning situations.

The teaching/learning process includes opportunities for teacher-student interaction in setting goals, selecting and evaluating learning experiences, and in appraising instructional methods and student progress. The process of

education takes place in an atmosphere characterized by a democratic spirit in which student and faculty can share learning experiences. This climate encourages the development of intellectual curiosity, systematic inquiry, the capacity for self-direction, and a sense of commitment to continued learning. Through this educative process, faculty and students continue to develop as informed persons responsible for contributing to the improvement of the profession and society through on-going creative efforts.

Undergraduate education in nursing prepares persons capable of beginning professional nursing practice and provides foundation for graduate education in nursing. Upon completion of the baccalaureate curriculum, the nurse can practice in a variety of settings and with clients of various developmental levels. The graduate uses process skills to maintain, restore, or improve health states of clients, and uses leadership theory to effect change. The baccalaureate graduate uses a conceptual base to evaluate and modify nursing role in relationship to client needs and expectations, and is prepared to support efforts in expanding nursing knowledge.

Graduate education in nursing prepares clinicians capable of leadership in developing and expanding nursing knowledge, skills, and practice competencies in light of societal needs. Preparation at the master's level provides the opportunity for the student to demonstrate self-direction and effective interactions with other health professionals in improving nursing practice and the health care delivery system. The master's graduate is able to provide quality health care in a variety of settings while clarifying and redefining nursing roles.

Programs Offered

The School of Nursing has on-campus or extension programs leading to the B.S.N. and M.S.N. degrees in Morgantown, Charleston, Parkersburg, Beckley, and Shepherdstown. Currently, the complete basic program leading to the Bachelor of Science degree in nursing is only available in Morgantown. A limited number of basic senior students may complete their senior year in Charleston. The program track for R.N.'s which leads to the B.S.N. degree is available at all sites. The graduate program leading to the M.S.N. degree is offered in Morgantown and Charleston.

The School of Nursing also offers the basic B.S.N. degree program in consortium with Glenville State College through a program offered on the Glenville and Charleston campuses. Further information on this program is available from Glenville State College or the School of Nursing.

Admission—Basic Program

To qualify for admission to the School of Nursing basic program a candidate must have completed one year of prescribed courses in an accredited college or university. Applicants are eligible for review by the Admissions Committee after completion of one full semester of course work in an accredited college or university. The prescribed courses include subjects such as: Chemistry, 8 hours; English Composition, 3 hours; Introductory Sociology, 3 hours; Introductory Psychology, 3 hours; Nutrition, 3 hours; Life Span Growth and Development, 3 hours; Core subjects, Biology, 4 hours; and/or electives.

A dominant factor in the number of students admitted is the limitation of space. Currently, the maximum number of basic students which can be accommodated is 72. *Since West Virginia University is a state university, and*

since the number of qualified applicants exceeds the number which can be accommodated, primary consideration is given to applicants from West Virginia. However, up to 10 percent of those admitted to each class may be from out of state.

Application forms for the School of Nursing are distributed by the Office of Admissions and Records at the Medical Center after December 1. Application for admission to the School of Nursing must be made by February 15 of the year the candidate wishes to be admitted. The application may be presented in person or mailed directly to the Assistant to the Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. An application fee of \$10.00, payable to West Virginia University, must accompany the completed application. The deadline for receipt of transcripts and other required materials is February 15.

The applicant's academic record is the major factor in the decision on admission. The West Virginia resident must have a grade-point average of 2.5 or above, on a scale of 0.0 to 4.0 on all college work attempted, to qualify for consideration. Residents of other states must have an average of 3.2 or above on all college work attempted to be considered. West Virginia applicants whose grade-point average falls between 2.3 and 2.5 may petition in writing to the Admissions Committee for special consideration. Out-of-state residents with a grade-point average between 3.0 and 3.2 also may petition. Such a petition must be submitted along with the application and must clearly state why the applicant should receive special consideration.

The review of applicants takes approximately two months. The students are notified by mail after review of all applicants is completed. Two weeks after receipt of the letter of acceptance, the student must send a letter stating acceptance of the position to the Assistant to the Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. A \$50.00 advance deposit must accompany the letter. This deposit is applied toward the registration fees for the first semester. The deposit is nonrefundable should the student decide not to enter after formally accepting a place in the class.

Admissions—Transfer Students to Basic Programs

A student with nursing credit from an accredited college or university is eligible for admission by presenting a record of courses comparable to those required in this curriculum and meeting other School of Nursing admission requirements. Application for transfer students should be initiated three months prior to the beginning of the semester in which they wish to begin nursing courses. Transcripts and other required materials must be received no later than two months before the start of the entering semester. Apply to: Assistant to the Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506 specifying request for admission as a transfer student.

Program for Registered Nurse Students

The School of Nursing offers graduates of diploma and associate degree nursing programs the opportunity to complete requirements for the baccalaureate degree in nursing at the Morgantown campus, at the Charleston Division of the WVU Medical Center, and by extension at Shepherdstown, Parkersburg, and Beckley. General education credits earned in any accredited college or university may be applied toward the fulfillment of the degree requirements,

if the course work is comparable. The continued offering of nursing courses at the various extension sites is dependent upon faculty resources and a minimum enrollment of 15 students in each nursing course.

Registered Nurse applicants are admitted directly to the School of Nursing. Acceptance and placement in the program is dependent upon the individual's academic record and upon the number of spaces available in the program. The license to practice nursing and a grade-point average of 2.5, or better, on all college work attempted, are required. Registered Nurses whose grade-point average falls below 2.5 may petition in writing to the Committee on Admissions for special consideration. A license to practice nursing as an R.N. in West Virginia is required for enrollment in all clinical nursing courses.

A minimum of 30 hours of general education courses that meet the WVU Core Curriculum and School of Nursing requirements should be completed before enrollment in the first nursing courses, Nursing 100, Basic Concepts in Professional Nursing and Nursing 101, Transitional Practicum. It is recommended that the 30 hours be selected from the suggested freshman and sophomore courses listed in the "Suggested Plan of Progression" under the section on curriculum. Special attention should be given to the physical, biological, and psycho-social sciences. Completion of additional general education courses beyond the 30 hours is recommended if the R.N. student wishes to carry a part-time course load. The second semester of chemistry may be waived if the applicant has successfully completed comparable laboratory science courses and meets other science requirements (Anatomy, Physiology, Microbiology, and Pharmacology).

All R.N. students are required to enroll in Basic Concepts of Professional Nursing (Nursing 100) and concurrently in Transitional Practicum (Nursing 101). The purpose of these courses is to facilitate transition into baccalaureate nursing. Special emphasis is placed on socialization into role and expectations of this role according to the School of Nursing's conceptual framework.

Graduates of associate degree programs establish lower-division nursing credit by the transfer of hours. Graduates of diploma establish sophomore-level credit in nursing by successful completion of a comprehensive lower-division challenge examination.

Upon successful completion of Nursing 100 and 101, establishment of sophomore nursing credit, and completion of the general education course requirements for the first and second years of the program listed under the section titled, "Suggested Plan of Progression," the R.N. student is eligible for the advanced placement experience (APE). This semester-long experience is a conceptual approach to the challenge of junior nursing courses. The experience results in an individualized diagnostic analysis of learning needs and completion of prescribed learning to meet these needs. The prescriptive component of the advanced placement, usually completed during the same semester as the APE, forms the basis for continued learning in senior courses. Difficulty with APE may require special work or enrollment in sophomore or junior course work. Generally, APE is followed by enrollment in senior nursing courses.

Senior nursing courses must be taken by enrollment. Successful completion of junior level advanced placement experience and general education requirements must be met prior to enrollment.

Requests for application forms for the Morgantown Campus and Parkersburg or Shepherdstown extension sites should be addressed to the Assistant to the Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506.

Application forms for the Charleston Division or Beckley extension site may be obtained from the Student Affairs Coordinator, Charleston Division, WVU Medical Center, 3110 MacCorkle Ave., S.E., Charleston, WV 25304.

Further information about the program may be obtained from Chairperson, Sophomore Academic Unit, School of Nursing, WVU Medical Center, Morgantown, WV 26506; or Chairperson, Charleston Academic Unit, School of Nursing, Room 2017, WVU Medical Education Building, 3110 MacCorkle Ave., S.E., Charleston, WV 25304.

Academic Standards and Graduation Requirements— B.S.N. Students

The student must: (1) maintain a cumulative grade-point average of 2.0 or better in all work attempted; (2) pass all graded nursing courses with a grade of C or better; and (3) pass all required courses.

A student who fails to meet the requirements listed above must present to the adviser an acceptable plan for meeting the requirements. This plan must be within the policies and standards set by the Committee on Academic Standards.

The degree of Bachelor of Science in Nursing (B.S.N) is conferred upon completion of a minimum of 127 hours.

Fees, Expenses, Housing, Transportation

Students registering pay the fees shown in the WVU Medical Center fees charts, plus special fees and deposits as required. Fees are subject to change without notice.

Expenses of students attending WVU vary widely according to their course of study and their individual tastes.

Students are expected to provide their own equipment and instruments for the clinical courses.

Information concerning financial assistance and application forms may be obtained by visiting or writing the Financial Aid Office, Basic Sciences Building, WVU Medical Center, Morgantown, WV 26506. Telephone 304/293-3706.

The University Housing and Residence Life Office, G-18 Towers (phone 304/293-3621), provides information concerning University-owned housing. The Student Life Office in Moore Hall provides information concerning privately owned, off-campus housing, (phone 304/293-5611).

Some clinical experiences require the student to travel in a multi-county area. Each student is responsible for providing her/his own transportation.

Curriculum

The conceptual framework of the WVU School of Nursing is based on four concepts. These are man, health, environment, and process.

Man assumes many roles in life. In nursing these roles are specific yet interdependent. *Man*-role is conceived as either that of the man-nurse or the man-client. When man in the client role and man in the nurse role come together for the purpose of the nurse assisting the client to achieve *health*, the *process* becomes operational. *Process* is the means by which the goal is attained. The process between man-nurse and man-client takes place in and influences a certain *environment*. On the other hand, the environment influences process, man-nurse, man-client, and health in many ways.

Thus, the curriculum design for both undergraduate and graduate programs is derived from basic beliefs about the major concepts and from beliefs about learning and holism. In essence, a framework is initially provided to identify the core concepts and their relationships. This framework becomes the student's vehicle or mechanism through which added knowledge can be organized and syntheized, generating new ideas.

SUGGESTED PLAN OF PROGRESSION

FIRST YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Chem. 11	4	Chem. 12	4
Psych. 1	3	Engl. 1	3
Soc. & A. 1	3	Biol. 2	4
Nutr. 71	3	Psych. 141	3
Core A	3	Core A	3
	<hr/>		<hr/>
	16		17

SECOND YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Nsg. 80	4	Nsg. 75	2
Nsg. 81	2	Nsg. 82	4
Anat. 101	4	Nsg. 83	2
M. Bio. 26	4	Physi. 141	4
Engl. 2	3	Pcol. 160	3
	<hr/>		<hr/>
	17		15
Nsg. 100 (R.N.s only)	4		
Nsg. 101 (R.N.s only)	2		

SUMMER BETWEEN SECOND AND THIRD YEAR

	<i>Hr.</i>
Nsg. 180	3
Nsg. 181	3
	<hr/>
(Basic Students only)	6

THIRD YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Nsg. 182	4	Nsg. 184	4
Nsg. 183	4	Nsg. 185	4
Nsg. 175 or Soc. & A. 211	2-3	Nsg. 175 or Soc. & A. 211	2-3
Core A/elective	3-6	Core A/elective	3-6
	<hr/>		<hr/>
	13-17		13-17

(Advanced Placement Experience for Junior Level Nursing Courses
available for the R.N.s) 18 credit hours

FOURTH YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Nsg. 275	3	Nsg. 284	3
Nsg. 280	3	Nsg. 285	3
Nsg. 281	1	Nsg. 286	3
Nsg. 282	2	Core A/elective	3-6
Nsg. 283	2		
Core A/elective	3-6		
	<hr/>		<hr/>
	14-17		12-15

Master of Science in Nursing (M.S.N.)

The School of Nursing offers a program of study leading to the Master of Science in Nursing (M.S.N.) degree to prepare the professional nurse for the role of nurse clinician in the advanced practice of nursing in primary health care. The program, which is administered by the Graduate Academic Unit, is offered at the University campus in Morgantown and through extension, serving the southern and northern regions of the state.

Designed in an integrative fashion, this non-traditional graduate program offers a curriculum model which allows students to enroll on a part-time or full-time basis. Throughout the curriculum, students are guided in the process of self-development aimed at pursuing excellence in scholarly and professional endeavors. The program allows flexibility within the basic curricular structure through the individualization of learning experiences, electives, thesis, and the opportunity to investigate an area of interest in advanced study.

The pattern of duration for the individual student study plan is determined in consultation with a faculty adviser and is based upon the student's background and goals. The program can be completed in four semesters of full-time study at the Morgantown campus, averaging a load of 9-12 credit hours per semester.

The program is accredited by the National League for Nursing.

Admission Requirements

The applicant must:

1. Meet the admission requirements of graduate education at West Virginia University.

2. Have completed a baccalaureate program in nursing which is accredited by the National League for Nursing (NLN). Applicants with a baccalaureate degree from nursing programs without NLN accreditation will be considered on an individual basis.

3. Have completed a course in introductory statistics (3 credit hours).

4. Provide the following:

- a. Statement of philosophy of nursing and professional goals.
- b. Letter of recommendation from each of the following: head of undergraduate nursing program, employer, and a colleague.
- c. Evidence of a current professional nursing licensure in at least one state.

5. Have an interview with a Graduate Academic Unit faculty member.

Five parameters are used for review of applicants: (1) academic achievement; (2) residency/employment; (3) professional experience; (4) career goals; and (5) recommendations. WVU School of Nursing is an equal opportunity/affirmative action institution.

Once admitted, the student is assigned to a faculty adviser who guides the student in curricular and academic matters. Enrollment in nursing courses is based upon readiness, availability of space, and other essential resources.

The application process should be completed by January 1 for summer (May) enrollment; and March 1 and August 1 for fall and spring enrollment, respectively. Class sizes are limited, based on available faculty resources and space.

Application Process

Applicants need to complete the following steps in order to be considered for admission:

1. Complete two application forms as indicated and return to the appropriate offices to avoid unnecessary delay in the review process.

a. Application for admission to Graduate Studies—To be returned with a \$20.00 nonrefundable service fee to: Office of Admissions and Records, West Virginia University, P.O. Box 6009, Morgantown, WV 26506-6009.

b. Application for admission to the Master of Science in Nursing Program—To be returned to: Chairperson, Graduate Academic Unit, WVU School of Nursing, Morgantown, WV 26506.

2. Request an official transcript of records from each college or university attended. Transcripts and records should be sent directly to the WVU Office of Admissions and Records.

3. Send three recommendation letters directly to the Chairperson of the School of Nursing Graduate Academic Unit.

4. Participate in an interview with a faculty member teaching in the graduate program. The interview is for the purpose of verifying application materials, reviewing admission criteria, identifying deficiencies and transferable credits and, where possible, projecting a tentative plan of study. It is expected that the applicant will take an active role in the interview process to be informed about the basis for the admission criteria.

Degree Requirements

1. Completion of 42 semester credit hours. Minimum of 33 hours in nursing and 9 hours of non-nursing electives. The required non-nursing electives are restricted to 3 hours in computer utilization and 6 hours of humanities and/or social sciences.

2. Completion of a Thesis (6 hours).

3. Achievement of an overall academic average of at least a B in all work attempted in the master's program. The grade C in two nursing courses will require a faculty review of the student's program progression.

4. Removal of all conditions, deficiencies, and incomplete grades.

Credit hours for courses in which the grade is lower than C will not count toward satisfying graduate degree requirements.

Students are expected to register for courses with letter grades (A, B, C), with the exception of electives which the student may opt to take with Satisfactory (S) or Unsatisfactory (U) grades, subject to the approval of the adviser.

M.S.N. Curriculum

<i>Nursing Theory, Practice, and Research (30-33 hours)</i>	<i>Hr.</i>
Nsg. 300—Advanced Nursing: Primary Health Care 1	3
Nsg. 301—Advanced Nursing: Primary Health Care 2	3
Nsg. 302—Advanced Nursing: Primary Health Care 3	3
Nsg. 310—Advanced Nursing Practice 1	3
Nsg. 311—Advanced Nursing Practice 2	3
Nsg. 312—Advanced Nursing Practice 3	3
Nsg. 370—Theories in Nursing	3
Nsg. 373—Research Process and Methods in Nursing	3
Nsg. 400—Advanced Nursing Practice 4	3
Nsg. 497—Research (Master's Thesis)	6
<i>Electives (9 hours)</i>	33
Cognates (Non-nursing)	9
Total	42

Sample Progression Plan (Full-Time Study)

Semester I	Hr.	Semester II	Hr.	Semester III	Hr.	Semester IV	Hr.
Nsg. 300	3	Nsg. 301	3	Nsg. 302	3	Nsg. 400	3
Nsg. 310	3	Nsg. 311	3	Nsg. 312	3	Nsg. 497	3
Nsg. 370	3	Nsg. 373	3	Nsg. 497	3	Elective	3
		Elective	3	Elective	3		
	9		12		12		9

TOTAL: 42 hours

Courses of Instruction in Nursing (Nsg.)

(For Nursing Majors Only)

75. *Issues of Nursing. II.* 2 hr. PR: Sophomore standing or consent. Overview of past, present, and future issues of the nursing profession. Emphasizes a historical review of the nursing literature.
80. *Concepts of Nursing 1. I.* 4 hr. PR: Sophomore standing or consent. Conc.: Nsg. 81. Introduces concepts, principles, and theories of nursing practice in relation to the health promotion with individuals and their families. Includes intellectual and interpersonal arts and psychomotor skills basic to nursing practice.
81. *Practicum 1. I.* 2 hr. PR: Sophomore standing or consent. Conc.: Nsg. 80. Selected experiences for the application of the basic concepts necessary for health promotion. Includes experience with individuals of all ages and their families. (Graded as Pass-Fail.)
82. *Concepts of Nursing 2. II.* 4 hr. PR: Nsg. 80, 81 or consent. Conc.: Nsg. 83. Concepts, principles, and theories of nursing practice with individuals experiencing minor deviations from wellness. Includes adapting mechanism necessary to regain health.
83. *Practicum 2. II.* 2 hr. PR: Nsg. 80, 81 or consent. Conc.: Nsg. 82. Selected experiences in which the nurse assists clients to cope with wellness and minor deviations from wellness. Includes experience with individuals of all ages and their families. (Graded as Pass-Fail.)
100. *Basic Concepts of Professional Nursing. I.* 4 hr. PR: West Virginia R.N. licensure or consent. Concepts and principles related to the professional nurse role. Focuses on the nurse role and role transition plus concepts in the School of Nursing curriculum.
101. *Transitional Practicum. I.* 2 hr. Conc.: Nsg. 100. Selected clinical experiences designed to help students identify strengths and remedy weaknesses in applying professional nursing concepts to client care. (Graded as Pass-Fail.)
175. *Issues of Nursing 2. I, II.* 2 hr. PR: Nsg. 75 or consent. Issues of nursing practice. Emphasizes related theories and research.
180. *Concepts of Nursing 3. S.* 3 hr. PR: Junior standing or consent. Conc.: Nsg. 181. Concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and moderate deviations from wellness. Builds on past intellectual and interpersonal arts and psychomotor skills.
181. *Practicum 3. S.* 3 hr. PR: Junior standing or consent. Conc.: Nsg. 180. Selected experiences for the application of concepts of nursing practice with individuals and families experiencing acute health care needs and moderate deviations from wellness. Includes experience with individuals of all ages. Emphasizes the practice of psychomotor skills. (Graded as Pass-Fail.)
182. *Concepts of Nursing 4. I.* 4 hr. PR: Nsg. 180, 181 or consent. Conc.: Nsg. 183. Concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and major deviations from wellness.

183. *Practicum 4. I. 4 hr. PR: Nsg. 180, 181 or consent. Conc.: Nsg. 182.* Selected experiences for the application of concepts of nursing practice with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages. (*Graded as Pass-Fail.*)
184. *Concepts of Nursing 5. II. 4 hr. PR: Nsg. 182, 183 or consent. Conc.: Nsg. 185.* Continuation of concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages.
185. *Practicum 5. II. 4 hr. PR: Nsg. 182, 183 or consent. Conc.: Nsg. 184.* Selected experiences for application of concepts of nursing practice with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages. Emphasizes nursing care problems of increased complexity. (*Graded as Pass-Fail.*)
275. *Issues of Nursing 3. I. 3 hr. PR: Senior standing or consent.* Analysis of professional nursing issues as they relate to a personal and professional philosophy of nursing.
280. *Concepts of Nursing 6. I. 3 hr. PR: Nsg. 180, 182, 184 or consent. Conc.: Nsg. 281.* Concepts, principles, and theories of professional nursing practice associated with individuals and/or families who are experiencing a critical, isolated health problem. Includes individuals of all ages. Introduces specialized psychomotor skills.
281. *Practicum 6. I. 1 hr. PR: Senior standing or consent. Conc.: Nsg. 280.* Selected experiences for the application of concepts of nursing practice with individuals and/or families experiencing a critical, isolated health problem. Includes experience with individuals of all ages. Emphasizes the practice of specialized psychomotor skills. (*Graded as Pass-Fail.*)
282. *Concepts of Nursing 7. I. 2 hr. PR: Senior standing or consent. Conc.: Nsg. 283.* Concepts, principles, and theories of professional nursing practice associated with individuals and/or families within the health care delivery system. Includes individuals of all ages.
283. *Practicum 7. I. 2 hr. PR: Senior standing or consent. Conc.: Nsg. 282.* Selected experiences in the application of concepts of nursing practice with individuals and/or families within the health care delivery system. Emphasizes a comprehensive study of a health concern in a defined population. (*Graded as Pass-Fail.*)
284. *Concepts of Nursing 8. II. 3 hr. PR: Nsg. 275, 280, 281, 282, 283 or consent. Conc.: Nsg. 285, 286.* Examines concepts influencing the professional nursing role within health-care delivery systems with emphasis on the synthesis of one's personal and professional philosophy of nursing.
285. *Practicum 8. II. 3 hr. Conc.: Nsg. 284.* Selected experiences in the practice of professional nursing in primary and secondary settings. Focus is on the incorporation of processes in the care of clients and the analysis of health care. (*Graded as Pass-Fail.*)
286. *Practicum 9. II. 3 hr. Conc.: Nsg. 284.* Selected experiences in the practice of professional nursing in acute or critical-care settings. Focus is on the incorporation of processes in the care of clients and the analysis of health care. (*Graded as Pass-Fail.*)
300. *Advanced Nursing: Primary Health Care 1. I, II, S. 3 hr. PR or Conc.: Nsg. 370.* Analysis and synthesis of concepts in nursing and related sciences relevant to the development of a conceptual framework for nursing in primary health care.
301. *Advanced Nursing: Primary Health Care 2. I, II, S. 3 hr. PR: Nsg. 310. PR or Conc.: Nsg. 373.* Development of a conceptual model for nursing with emphasis on developing strategies to promote client health.
302. *Advanced Nursing: Primary Health Care 3. I, II, S. 3 hr. PR: Nsg. 311.* Further development and/or refinement of a conceptual model for nursing with specific emphasis on planned change strategies and how these strategies impact health.

310. *Advanced Nursing Practice 1. I.* 3 hr. Conc.: Nsg. 300. Advanced nursing practice focusing on applicability of concepts in students' developing conceptual framework.
311. *Advanced Nursing Practice 2. II, S.* 3 hr. Conc.: Nsg. 301. Advanced nursing practice focusing on development and application of nursing strategies within the context of the students' conceptual model.
312. *Advanced Nursing Practice 3. I, S.* 3 hr. Conc.: Nsg. 302. Advanced nursing practice focusing on application and testing of students' conceptual model, identification of a health problem area within the practice setting, and preparation of a planned change strategy.
370. *Theories in Nursing. I, S.* 3 hr. PR: Graduate standing; consent. Introduction to the structure and function of extant theories in nursing as a basis for developing a conceptual framework for nursing.
373. *Research Process and Methods in Nursing. II.* 3 hr. PR: Nsg. 310, 370. Study of the research process and methods for incorporation into students' conceptual model, practice and research in nursing.
400. *Advanced Nursing Practice 4. I, II.* 3 hr. PR: Nsg. 312. Collaborative practice focusing on the evaluation and modification of students' conceptual model for nursing and implementation of a planned change strategy.
491. *Advanced Study. I, II.* 1-3 hr. PR: Graduate standing; consent. In-depth study of topics related to current issues in primary health care. Study may be independent or through specially scheduled seminars.
497. *Research. I, II.* 1-6 hr. PR: Nsg. 373; PR or Conc.: Nsg. 312; consent. Refinement and implementation of research proposal to meet requirements for the master's thesis.

School of Pharmacy

Pharmacy was first offered at West Virginia University as a department in the School of Medicine, beginning in 1914. It was changed to the College of Pharmacy in 1936 and to the School of Pharmacy in 1958. In 1960, the School of Pharmacy changed from a four-year to a five-year program—including two years of pre-pharmacy.

The objective of the School of Pharmacy is to educate practitioners for current and future roles in the profession of pharmacy.

The pharmacy curriculum consists of three years of professional study preceded by a minimum of two years of study in an accredited college of arts and sciences.

The curriculum is designed to provide the student with the scientific and technical knowledge and communication skills required to practice the profession and to inculcate in the student a concept of the pharmacist's professional responsibilities as a health science practitioner and as a guardian of the public health.

Most pharmacy graduates enter practice in community or institutional pharmacies; however, many positions are also available in various government agencies, professional organizations, and industry. Pharmacists are eligible for commissions in the armed forces and the U.S. Public Health Service.

Graduates also may prepare for careers in teaching and research by entering graduate schools for specialization in pharmacy, pharmaceuticals, pharmacognosy, pharmaceutical chemistry, pharmacy administration, and pharmacology and toxicology. The pharmaceutical industry provides opportunities in a variety of capacities in promotion, distribution, production, and research.

Accreditation

The School of Pharmacy is accredited by the American Council on Pharmaceutical Education. The council is composed of members from American Pharmaceutical Association, National Association of Boards of Pharmacy, American Association of Colleges of Pharmacy, and American Council on Education.

The School of Pharmacy holds membership in the American Association of Colleges of Pharmacy whose objective is to promote the interests of pharmaceutical education. All institutional members must maintain certain requirements for entrance and graduation.

Legal Requirements and Reciprocity

To qualify for examination for licensure by the West Virginia Board of Pharmacy, the applicant must be not less than 18 years of age, and of good moral character. Further, the applicant must be a graduate of an accredited school of pharmacy, and must meet the internship requirements set by the West Virginia Board of Pharmacy.

Interns must be registered with the West Virginia Board of Pharmacy and must be enrolled in or a graduate of an accredited school of pharmacy to gain experience acceptable for the internship requirement. Details may be obtained from the Office of the Dean.

School of Pharmacy graduates are eligible for examination to practice pharmacy in any state. Graduates who successfully pass the West Virginia

Board of Pharmacy examination are privileged to reciprocate, without further examination, with forty-seven other states, and with the District of Columbia and Puerto Rico, provided they meet the requirements of these states.

Admission

All students seeking enrollment in the School of Pharmacy must comply with regulations appearing in this and the WVU *Undergraduate Catalog*.

Students preparing for the study of pharmacy may satisfy the course work requirements for entrance into the School of Pharmacy by majoring in any arts and sciences subject and including in their course selections the following, or their equivalents:

English Composition	6 hr.	Chemistry, General	8 hr.
College Algebra*	3 hr.	Chemistry, Organic	8 hr.
Trigonometry*	3 hr.	Physics	8 hr.
Principles of Economics	6 hr.	Electives**	18 hr.
Biology, General	8 hr.		
TOTAL			68 hr.

*Pre-calculus or calculus (4 hr.) may be substituted for these two courses.

**Electives must be designed to satisfy University Core Curriculum requirements. Electives: Core Group A—12 hr.; Core Group B—6 hr.

University Core Curriculum Group A includes selected courses in: Art, English (exclusive of English 1 and 2), Foreign Languages, Humanities, Multidisciplinary Studies, Music, Philosophy, Religious Studies, Speech Communication, Theatre, and Women's Studies.

University Core Curriculum Group B includes selected courses in: Child Development and Family Studies, Education Foundations, Forestry, Geography, History, Mineral Resource Economics, Multidisciplinary Studies, Political Science, Psychology, Sociology and Anthropology, Technology Education, Women's Studies, and Economics (for Pharmacy students, Group B Economics would include Economics electives beyond the 6-hr. required courses).

Because limited openings are available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

Admissions are competitive and are based on cumulative academic average and science average achieved in all prior college courses, a personal interview, recommendations, and results of the Pharmacy College Admission Test (PCAT). A required course in which a grade of D was received will usually have to be repeated with a grade of C or better before acceptance can be granted by the School of Pharmacy Committee on Admissions.

For admission to the School of Pharmacy, formal application should be made to the Committee on Admissions of the School of Pharmacy as early as possible after January 1, but by April 1, preceding the fall term (first semester) in which the student is seeking enrollment. Formal applications received after the April 1 deadline will be considered only when vacancies exist.

Applicants should write to Office of Admissions and Records, WVU Medical Center, Morgantown, WV 26506, which will furnish official blanks on which formal application must be made.

A \$10.00 application fee is required and must accompany the application.

Each applicant who is recommended for acceptance is expected to deposit \$50.00 before the applicant's name is entered upon the official list of those accepted by the School of Pharmacy. If the applicant enrolls, this sum is applied to the first-semester tuition. If the applicant fails to enroll, this deposit is forfeited.

It is required that during the first semester of the first year all students must complete certain prescribed immunization and diagnostic procedures.

Complete information may be obtained from the Dean of the School of Pharmacy, Morgantown, WV 26506; or from the Office of Admissions and Records, WVU Medical Center, Morgantown, WV 26506.

Pharmacy College Admission Test

Completion of the Pharmacy College Admission Test is a requirement for admission. It is strongly recommended that the student take this test in the fall before making application for admission. Information concerning time and place of the test can be obtained from a pre-pharmacy adviser, the School of Pharmacy, or by writing: Pharmacy College Admission Test, The Psychological Corporation, 7800 Old Oak Blvd., Cleveland, OH 44130.

Personal Interview

A personal interview with the Committee on Admissions will be required. Interviews will be held at the WVU Medical Center and will be arranged insofar as possible to suit the convenience of the applicant. Interviews are scheduled during February, March, and April. Only applicants with a cumulative and science average of 2.5 or above will be called for an interview, unless openings are available.

Admission to Advanced Standing

If space is available, students from other accredited schools of pharmacy may be admitted provided they meet the course requirements of the WVU School of Pharmacy, have a 2.5 grade-point average, and are eligible for readmission for the degree in pharmacy in the school previously attended. D grades in professional courses will not be transferred.

Student Status and Advancement

The determination of student status is in the hands of the Committee on Academic Standards of the School of Pharmacy. All committee actions are subject to approval of the Dean. In the School of Pharmacy, all grades except W, WU, P, and X are used to determine the cumulative grade-point average. The advancement of students in the School of Pharmacy is based on satisfactory academic performance, as well as the completion of course requirements.

To be in good standing, a student must maintain at least a 2.0 cumulative average in professional subjects. An F grade or failure to attain a 2.0 average in any semester will result in placing a student on probation. To be removed from probation, a student shall: (a) remove all academic deficiencies; (b) attain not less than a 2.0 cumulative grade-point average; and (c) demonstrate significant improvement in academic performance earning a C grade or better in all course work prescribed by the Committee on Academic Standards. Failure to be removed from probation in the subsequent semester may be deemed sufficient reason for suspension or the withdrawing of advancement. Furthermore, any student on probation at the end of the second professional year must petition the Committee on Academic Standards for advancement to the third professional year. Any student on probation at the beginning of the second semester second professional year, or who qualifies for probation at the end of that semester, shall not be eligible for summer clerkships.

Any first-professional-year student deficient 7 or more grade points shall fail promotion and shall repeat the year. Any second-professional-year student deficient 4 or more grade points shall fail promotion and shall repeat the year. Any student deficient 12 or more grade points, or who fails promotion a second time, shall be suspended.

Students on probation are not eligible to hold office in student organizations or to participate in activities which make demands on time necessary to maintain satisfactory academic performance. Students are expected to be present for all of their classes and laboratories. Full-time students in the School of Pharmacy may not register for less than 12 hours nor more than 20 hours during any semester without the approval of the Committee on Academic Standards.

Special Requirements

Students in the first professional year are required to obtain an Intern Certificate from the West Virginia Board of Pharmacy. Any hours worked before becoming a Registered Intern will not count toward the 1500 clock hours required by the Board of Pharmacy for licensure in West Virginia. The Intern Certificate must be maintained until completion of the internship.

During the first professional year, students will be informed of their assigned semester for the third professional year's required externship/clerkship program. Location and time of the rotations will be assigned during the first semester of the second year. Opportunity will be provided to state individual preference before assignments are made. The School of Pharmacy reserves ultimate responsibility in making such assignments. Each student will be expected to bear any financial burdens (i.e., living, moving, travel, etc.) incurred in satisfying externship/clerkship assignments. The class will be divided equally in thirds for the summer, fall, and spring terms with a maximum of 24 students during any semester.

Requirements for Degree

The degree of Bachelor of Science in Pharmacy (B.S.Pharm.) is conferred upon any student who complies with the general regulations of WVU concerning degrees, satisfies all entrance and School of Pharmacy requirements, and completes the curriculum of the School of Pharmacy.

To be eligible for graduation, a student must have an average of C (2.0) for all work in the professional curriculum.

Course Changes

A student who desires to obtain credit for a course in place of any course prescribed in the student's curriculum must obtain permission for such change from the Dean.

Curriculum

SCHOOL OF PHARMACY CURRICULUM PLAN

First Professional Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Bioch. 139—Gen. Biochem.	4	M. Bio. 220—Microbiology	4
Anat. 101—Hum. Anat.	3	Phar. 202—Concepts. Pceut. 2	4
Physi. 241—Mech. Body Funct.	4	Phar. 207—Intro. to Drug Lit.	1
Phar. 200—Prep. Phar. Pract.	3	Phar. 228—Phar. Pract. Leg. Env.	4
Phar. 201—Concepts Pceut. 1	3	Phar. 241—Fund. Pathophys.	3
Phar. 227—Phar. Soc. Env.	2	Phar. 270—Fund. Med. Chem. 1	3
	<u>19</u>		<u>19</u>

Second Professional Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Pcol. 243—Pharmacology	4	Phar. 205—Phar. Pract.	4
Phar. 203—Concepts Pceut. 3	4	Phar. 230—Prof. Asp. Phar.	3
Phar. 229—Man. Asp. Phar. Pract.	3	Phar. 243—Chem. Immu. Agts.	3
Phar. 245—Pharmacotherapeutics 1	3	Phar. 246—Pharmacotherapeutics 2	3
Phar. 271—Fund. Med. Chem. 2	2	Phar. 260—Princ. Med.	2
Electives	0-3	Electives	0-4
	<u>16-19</u>		<u>15-19</u>

Third Professional Year

<i>First Session (Summer)</i>	<i>Hr.</i>	<i>Second Session (First Sem.)</i>	<i>Hr.</i>
Phar. 250—Amb. Care Clerkship	4	Phar. 250, 251, 252, and 253	
Phar. 251—Med. Team Clerkship	4	(See First Session)	16
Phar. 252—Inst. Care Clerkship	4	or	
Phar. 253—Elect. Clerkship	4	Electives, a minimum of	12
	<u>16</u>	or	
		Free Session	
or			
Free Session			
<i>Third Session (Second Sem.)</i>	<i>Hr.</i>		
Phar. 250, 251, 252, and 253	16		
or			
Electives, a minimum of	12		
or			
Free Session			

Prior to graduation and following completion of the first professional year, each student enrolled in the School of Pharmacy must complete a minimum of 19 credit hours of electives as part of the pharmacy curriculum.

Of the 19 credit hours, a minimum of 10 credit hours must be electives offered in the School of Pharmacy. The remaining credit hours may be approved electives offered in other colleges and departments at WVU. Elective course lists are posted in the School of Pharmacy and are available from the student's adviser. Under special circumstances (e.g., new courses, preparation for special post-baccalaureate programs, etc.) and only with the adviser's permission, the student may take a course which does not appear on either list of approved electives. Beyond the required 19 credit hours, the

student may take any other electives. No course taken prior to admission into the School of Pharmacy may be used nor repeated to meet the elective requirements of the professional curriculum.

A student admitted into the School of Pharmacy with a previously earned baccalaureate degree may petition the Academic Standards Committee to be relieved of a maximum of 9 credit hours of approved elective courses outside the School of Pharmacy. It is assumed that this will be granted as long as the student is in good academic standing.

The University pass/fail policy will be followed. Only Pharmacy 289 (first offering up to 3 hours), approved electives in other colleges and departments at WVU, or additional free electives may be taken on a pass/fail basis. A student with at least a 2.0 grade-point average may elect to take up to a maximum of 4 credit hours each semester on a pass/fail grading basis.

Graduate Programs

Pharmaceutical Sciences

The School of Pharmacy offers graduate programs in the pharmaceutical sciences aimed at educating competent researchers and teachers. Programs for the degree of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) provide flexible, research-oriented curricula designed to develop the interests, capabilities, and potential of the individual student.

Admission

Applicants for admission must satisfy the general requirements for admission as graduate students. The applicant must possess a baccalaureate degree with a background in a suitable area of study, an overall grade-point average of at least 2.75, and the aptitude and interest for graduate work in the pharmaceutical sciences in order to be admitted with regular students status. Applicants not meeting criteria for admission with regular student status will be considered for admission under alternate admission classifications as explained in Part 2 of the *WVU Graduate Catalog*. In addition, graduate record examination scores in the verbal, quantitative, and analytical portions of the examinations are required from all students, and TOEFL, or similar scores, are required of foreign students. While the Graduate Record Examination (GRE) scores are preferred for applicants in the area of Behavioral and Administrative Pharmacy, test scores on the Graduate Management Admissions Test (GMAT) are acceptable.

Academic Standards

No credits are acceptable toward a graduate degree with a grade lower than a C.

The graduate student must have a cumulative grade-point average of at least 3.0 in all graduate courses to qualify for the degrees.

Master of Science (M.S.)

The School of Pharmacy offers programs of graduate study leading to the degree of Master of Science (M.S.) in the pharmaceutical sciences. Students may specialize in pharmacy administration, pharmacology and toxicology, pharmacognosy, pharmaceutical chemistry, industrial pharmacy, medicinal chemistry, pharmaceuticals, biopharmaceuticals, and pharmacokinetics.

Requirements for M.S. Degree

To be eligible for the M.S. degree, the student must complete a minimum of 30 hours of graduate credit, of which no more than 6 hours may be for research and thesis.

Upon completion of the course work and research requirements and after submission of the thesis, an oral examination will be administered by the appointed examination committee.

Doctor of Philosophy (Ph.D.)

The School of Pharmacy offers programs of study leading to the Doctor of Philosophy (Ph.D.) degree in the pharmaceutical sciences. Specialty areas of study include medicinal chemistry, pharmaceuticals, biopharmaceutics/pharmacokinetics, and behavioral and administrative pharmacy.

Requirements for Ph.D. Degree

The student's first semester is usually occupied with course work while he or she is under the guidance of an assigned interim committee. During this time, each student will confer with several faculty members concerning the research project, and a major professor should be chosen by the end of the first semester of graduate study. The student's research committee should be chosen by the end of the first year of study (18-20 hours of graduate course work). The interest to pursue the M.S. en route to the Ph.D. degree should also be stated at this time. It is not necessary for all students to complete all requirements for the M.S. degree in order to qualify for admission into the Ph.D. program, although the student, with committee advice, may elect to complete the requirements for this degree in progress toward the Ph.D. Students bypassing the M.S. must meet all requirements for the M.S., except for preparing and defending a thesis.

A formal plan of study and research plan must be submitted by the student, the major professor, and the research committee.

Progress will continue with guidance from the research committee, and by the end of the second year the student should have completed the language/research tool requirements.

To be admitted to candidacy for the Ph.D. degree, the student must satisfy the above requirements and pass oral and written qualifying examinations.

After admission to candidacy, a substantial part of the program is devoted to an original research project which culminates in a dissertation. To be recommended for the Ph.D., the dissertation must be satisfactorily completed and defended at an oral examination.

Courses of Instruction in Pharmacy

Professors Brister, Covington, Jacknowitz, Lim, C. Malanga, J. Mauger, O'Connell, and Rosenbluth; Professor Emeritus Wojcik; Associate Professors Brushwood, M. Davis, Gwilt, Hoy, Ma, Ponte, Riley, Stratford, and Waters; Assistant Professors Abate, Elliott, Pau, Schulz, and Wedin; Clinical Associate Professor Lowe; Clinical Assistant Professors Bartsch, Clark, D. Gill, Hilligoss, Midcap, Ott, Parker, Prettyman, and Stevenson; Clinical Instructors Alderman, Anderson, Anile, Bailey, J. Bovenizer, N. Bovenizer, Caplan, Carter, Cole, Coleman, Corkrean, Crawford, Criss, R. Davis, DeBone, Deem, Defazio, Dotson, Foster, Fruth, Gastineau, G. Gill, Griffith, Griffiths, Gryskevich, Heflin, Hickman, Hockenberry, Holmes, Jarvis, Johnston, Kelly, Knight, Lang, Law, Lindsay, Logan, Lusk, M. Malanga, Martin, K. Mauger, McClendon, McKeever, Menighan, Meredith, Miller, Muha, Nichols, Orlando, Ottmar, Pawlak, Phillips, Plummer, Plyburn, Reed, Rexrode, Ridgway, Ritchie, Robinette, Rubin, Scott, Scrivo, Shallis, Shaw, Slaven, Slevin, Stanley, Stout, Taylor, B. Thomas, J. Thomas,

Tonkovich, Toompas, Van Meter, Viola, Weaver, Weekley, Winters, Yost, and Ziolkowski; Adjunct Professors Howard, Nematollahi, and O'Donnell; Adjunct Associate Professors Glover and Shah; Adjunct Assistant Professors Cunningham, Harper, Kirsch, Poremba, Richardson, and Swisher; Adjunct Instructors Dalton, Goto, Krahulec, Schamroth, and Stone.

Pharmacy (Phar.)

200. *Preparation for Pharmacy Practice*. I. 3 hr. PR: First-year standing in pharmacy or consent. Pharmaceutical calculations, dosage forms, dispensing techniques, and an overview of pharmacy practice and career opportunities.
201. *Concepts in Pharmaceutics 1*. I. 3 hr. PR: First-year standing in pharmacy or consent. Concepts of a pharmaceutical system with emphasis on the physiochemical principles in formulations and dosage forms, primarily solutions and their calculations.
202. *Concepts in Pharmaceutics 2*. II. 4 hr. PR: Phar. 201 or consent. Special dosage forms, quality control, drug analysis, design and manufacture of pharmaceutical formulations and their conformity with Food and Drug Administration (FDA) regulations, especially good manufacturing practices.
203. *Concepts in Pharmaceutics 3*. I. 4 hr. PR: Phar. 202 or consent. Fundamentals of biopharmaceutics are presented. The kinetic, therapeutic, and dosage formulation-related aspects of drug absorption and disposition are discussed. Laboratories emphasize theoretical and practical problems in pharmacokinetics and bioavailability.
205. *Pharmacy Practice*. II. 4 hr. PR: Second-year standing in pharmacy or consent. Development of professional competence in the practice of pharmacy. Scientific principles underlying extemporaneous prescription compounding are applied to prescription problems. Problems arising in the dispensing of precompounded pharmaceuticals are studied.
207. *Introduction to Drug Literature*. II. 1 hr. PR: First-year pharmacy student or consent. To acquaint the student with the reference sources available to meet the drug information needs of pharmacists in the many different aspects of pharmacy practice, as well as those needed by other health practitioners.
211. *Sterile Products*. I, II. 3 hr. PR: Third-year standing in pharmacy. Broad view of the technology involved in sterilization and in the preparation and administration of sterile dosage forms. 2 hr. lec., 3 hr. lab.
212. *Non-Prescription Drugs*. I. 3 hr. PR: Second-year standing in pharmacy. Basis for self-medication, the therapeutic rationale for non-prescription drugs, and ethical principles as they apply to non-prescription drugs and appliances.
213. *Industrial Pharmacy*. I. 4 hr. PR: Phar. 202. Major aspects and principles of dosage form development and manufacture. Structure of industry and government influences. Laboratory experiences in manufacturing and development techniques.
214. *Cosmetic Formulation*. II. 3 hr. PR: Phar. 203. Introduction to principles and basic considerations of cosmetic formulations, including review of anatomy/physiology of skin. Laboratory exposes students to practical aspects of processing the most popular cosmetic products.
215. *Physical Pharmacy*. II. 3 hr. PR: First-year standing in pharmacy or consent. Designed to illustrate the special application of physiochemical properties of materials to pharmaceutical and physiological systems. Especially useful in delineating formulation considerations impinging upon the stability of complex systems.
216. *Hospital Pharmacy and Administration*. I. 3 hr. PR: Enrollment in the School of Pharmacy and consent. Basic concepts of the organization, management, and services of hospitals and pharmacist's role in the modern hospital. Emphasis on principles of hospital pharmacy administration and practice.

227. *The Pharmacist's Social Environment*. I. 2 hr. External factors which influence the practice of the pharmacist over which the pharmacist has little or no control, with emphasis on the psychosocial aspects and distributive systems.
228. *Pharmacy Practice and Legal Environment*. II. 4 hr. PR: Phar. 227 or consent. Continuation of Phar. 227 with emphasis on legal and health care delivery systems.
229. *Managerial Aspects of Pharmacy Practice*. I. 3 hr. PR: Phar. 227 and 228 or consent. Emphasis on decision making, planning, organization, personnel, information systems, risk factors, and financial aspects.
230. *Professional Aspects of Pharmacy Practice*. II. 3 hr. Emphasis on inventory control, pricing, communications, patient profiles and charges, and present and future role of pharmacist.
231. *The Pharmacist Proprietor*. I. 3 hr. PR: Senior standing in pharmacy. Pharmacist as a business owner; management theories and principles applied to the efficient operation of pharmacy.
232. *Social Aspects of Pharmacy*. II. 3 hr. Psychosocial aspects of pharmacists and patients in health care setting. Behavioral science factors which affect whether, why, or how medications and pharmaceutical services are used; role of pharmacist in health care.
233. *Current Developments in Pharmacy Practice*. II. 3 hr. PR: Third-professional-year standing, or second-professional-year by consent. Examines issues of current importance to contemporary pharmacy practice such as prepaid health insurance, peer standards review and organizations, degree and title granting, competency based relicensure and continuing education, and technicians' roles.
241. *Fundamentals of Pathophysiology*. II. 3 hr. PR: First-year standing in pharmacy or consent. Student is introduced to various disease states with emphasis on the pathophysiology underlying those diseases amenable to drug therapy.
243. *Chemotherapeutic and Immunobiologic Agents*. II. 3 hr. PR: Consent or second-year standing in pharmacy. Bacterial, viral, and parasitic infections; immunobiological methods of prevention, modification, and treatment; chemotherapeutic agents used in treatment; therapeutics and management.
245. *Pharmacotherapeutics 1*. I. 3 hr. PR: Second-year standing in pharmacy or consent. The application of pharmacodynamic, pharmacokinetic, and pharmaceutical principles in the treatment, diagnosis, and prevention of disease states.
246. *Pharmacotherapeutics 2*. II. 3 hr. PR: Phar. 245 or consent. A continuation of Phar. 245 in the application of pharmacodynamic, pharmacokinetic, and pharmaceutical principles in the treatment, diagnosis, and prevention of disease states.
249. *Drugs and Medicines*. I. 3 hr. (Not intended for pharmacy majors.) PR: General biology or consent. A course intended to introduce the nonhealth professional student to information about drugs and pharmaceutical preparations to include their source, administration, action, use and abuse.
250. *Ambulatory Care Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. A course giving extensive experience in the practice of pharmacy, emphasizing the pharmacist's relationship to ambulatory patients.
251. *Medical Team Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Students will participate on a health care team in an inpatient setting. Emphasis will be on pharmaceutical and drug advising, role of drug therapies in patient care, patient drug histories, and practitioner-patient communications.
252. *Institutional Care Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Extensive experience will be gained in the practice of pharmacy in institutional centers with emphasis on the pharmacist's relationship with institutional patients.
253. *Elective Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Students will elect to repeat a clerkship (Phar. 250, 251, 252). Emphasis will be on the further development of skills in the practice of pharmacy.

256. *Advanced Pharmacotherapeutics*. I. 3 hr. PR: Phar. 246 or equiv., and consent. The integration of pharmacological-therapeutic concepts in the study of treatment modalities and problems which may be encountered by the pharmacist in drug management of selected disease states.
260. *Principles of Medicine*. II. 2 hr. Those diseases about which the pharmacist should have sufficient knowledge for intelligent communication with the physician.
270. *Fundamentals of Medicinal Chemistry* 1. II. 3 hr. PR: First-year standing in pharmacy or consent. A relationship of the chemistry, structure, and physicochemical properties of drugs to their pharmacodynamic effects. Major portion devoted to basic principles followed by discussion in pharmacological classes.
271. *Fundamentals of Medicinal Chemistry* 2. I. 2 hr. PR: Phar. 270. Continuation of Phar. 270.
272. *Pharmacochemical Concepts of Drug Design*. II. 3 hr. PR: Phar. 271 or consent. Selected concepts of chemical approaches to the study of pharmacological and toxicological actions of drugs and their application to drug design.
276. *Pharmaceutical Quality Control*. I. 3 hr. PR: Second-year standing in pharmacy. Basic scientific principles in quality control of drugs and dosage forms, with particular attention to newer analytical techniques.
283. *History of Pharmacy*. I or II. 2 hr. Gives the student a deeper appreciation of the background of pharmacy and its development from ancient times to present.
284. *Public Health*. I or II. 2 hr. Measures required for the application of the pharmacist's knowledge, skill, and facilities to the promotion of the health and welfare of the public in cooperation with public and private health agencies. (Course will not be offered in 1986-87.)
285. *Radiopharmacy*. I. 3 hr. PR: Second-year standing in pharmacy or consent. Production and properties of radiation; detection of radiation; nuclear medicine instrumentation; the formulation, production, quality control, and use of radioactive materials and radiopharmaceuticals used in diagnosis and treatment.
287. *Seminar in Pharmaceutical Sciences*. I, II. 1-3 hr. PR: Consent. Presentation and discussion of special topics in pharmaceutical sciences.
289. *Pharmaceutical Investigations*. I, II, S 1-3 hr. PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacognosy, or pharmacy.
290. *Special Topics*. I, II. 1-4 hr.
298. *Clinical Pharmacy Specialties*. I, II, S. 3 hr. PR: Phar. 250, 251, 252, 253, and consent. Clinical pharmacy elective rotation on a selected medical specialty service. Rotations will be arranged upon approval by clinical pharmacy instructor and respective medical chiefs.
300. *Industrial Pharmacy*. I. 4 hr. Major aspects and principles of dosage form development and manufacture. Structure of industry and government influences. Laboratory experiences in manufacturing and development techniques.
301. *Advanced Biopharmaceutics*. I or II. 3 hr. Concepts of biopharmaceutics and pharmacokinetics in relation to the design and evaluation of dosage forms and determination of rational dosage regimens in health and disease.
314. *Cosmetic Formulation*. II. 3 hr. PR: Phar. 203. Introduction to principles and basic considerations of cosmetic formulations, including review of anatomy/physiology of skin. Laboratory exposes students to practical aspects of processing the most popular cosmetic products.
315. *Physical Pharmacy*. I or II. 3 hr. Designed to illustrate the special application of physicochemical properties of materials to pharmaceutical and physiological systems. Especially useful in delineating formulation considerations impinging upon the stability of complex systems.

370. *The Synthesis of Drugs*. I, II, S. 3 hr. PR: Chem. 332 and consent. A survey of the approaches employed in the synthesis of a variety of examples of pharmacologically useful agents. Emphasis is placed on retrosynthetic analysis of target molecules and the application of synthetic procedures to multi-step syntheses.
390. *Special Topics*. I, II, S. 1-4 hr.
391. *Seminar in Pharmaceutical Sciences*. I, II. 1 hr. PR: Consent. A multidisciplinary weekly presentation and discussion of special topics and research in the pharmaceutical sciences. (Weekly attendance is required and grading is on an S/U basis only.)
396. *Special Problems in Pharmaceutical Sciences*. I, II, S. 1-3 hr. Where special interest is shown by the student in an area other than of the student's thesis research, a faculty member will supervise individual study and research.
490. *Teaching Practicum*. I, II. 1-3 hr. PR: Graduate standing and consent. Supervised practices in college teaching of pharmacy.
491. *Advanced Study*. I, II, S. 1-6 hr. PR: Consent. Investigation in advanced subjects which are not covered in regularly scheduled courses. Study may be independent or through specially scheduled lectures.
494. *Special Seminars*. I, II, S. 1-6 hr. Special seminars arranged for advanced graduate students.
496. *Graduate Seminar*. I, II. 1 hr. PR: Consent. Formal presentation by graduate students to assembled graduate faculty and students of research or special topics approved by adviser. Title to be presented at start of semester. Required at least once annually. (Grading is S/U.)
497. *Research*. I, II. 1-15 hr.
498. *Thesis*. I, II, S. 2-4 hr. PR: Consent.

Pharmaceutical Chemistry (Ph. Ch.)

375. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Spectroscopic methods of analysis with emphasis on their applications in pharmaceutical problems and in biological sciences.
376. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Continuation of Ph. Ch. 375, with emphasis on electro-analytical methods and preparation of samples from pharmaceutical dosage forms and from biological materials.
377. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Physical-chemical principles involved in methods development. A special problem is assigned as an integral part of the course.

Pharmaceutics (Pceut.)

302. *Advanced Pharmaceutics*. I or II. 3 hr. Physiochemical and biopharmaceutical principles involved in disperse systems (liquid, semi-solid, and solid) which function as dosage forms. Considerations of properties of solid dispersions, micromeritics, diffusion of liquid dispersions, interfacial phenomena, emulsification, suspensions, prolonged action medication, etc.

Pharmacognosy (Pcog.)

340. *Organic Plant Constituents*. I or II. 3 hr. Occurrence, properties, biogenesis, etc., of a number of classes of organic compounds derived from plants. Emphasis on secondary metabolites which contain products of pharmaceutical or medicinal interest. (Course will not be offered in 1986-87.)
341. *Isolation of Plant Constituents*. I or II. 3-5 hr. Acquaints the student with techniques used in extraction, separation, and isolation of plant constituents. (Course will not be offered in 1986-87.)

Pharmacy Administration (Phar. Ad.)

- 320. *Drug Relation and Control*. I or II. 3 hr. Legislation affecting the development, introduction, control, and utilization of drugs in the American economy.
- 321. *Drug Distribution Systems*. I or II. 3 hr. Detailed study and analysis of drug distribution in institutional environments.
- 323. *Economics of the Pharmaceutical Industry*. I or II. 3 hr. History, background, and formation of major drug industries. Oligopolistic practices, mergers, combines, costs of research, and production.

West Virginia University Hospitals, Inc.

For the past quarter century University Hospital provided the training ground for Medical Center health professionals, offering patients the best in medical care along with education for students and advancement of knowledge. In 1984 the hospital entered a new administrative era when the Legislature cut it loose from state operation and placed it under the ownership and direction of a not-for-profit corporation known as West Virginia University Hospitals, Inc. The hospital had needed major upgrading costing nearly \$50 million to meet new safety codes and other requirements, and lawmakers agreed a new hospital was the best answer. Construction started in 1985 and first patients are to be admitted by 1988.

The main medical and surgical hospital will be known as Ruby Memorial Hospital in honor of Mrs. Hazel Ruby McQuain and the late J. W. Ruby, a Morgantown industrialist. Mrs. McQuain contributed \$8 million, the largest philanthropic gift in West Virginia history, for the new hospital. In addition to the main unit, the hospital eventually will include psychiatric, children's, and ambulatory care buildings or wings.

Patients come to the hospital and its clinics from all parts of West Virginia, with 40 of the state's 55 counties represented on a typical day. They find expertise, experience and equipment or other resources sometimes not available elsewhere in the state, in such areas as laser surgery, pain control, bladder pacemakers, radiation therapy, pediatric surgery and cleft palate repair. More than 2,000 patients are seen weekly in the 50 clinics and the emergency department records some 35,000 patient visits per year.

University Hospital recently was awarded a major Robert Wood Johnson Foundation grant to develop a hospital-based program for the elderly. It was one of 25 hospitals nationwide chosen from among 320 applicants. Earlier the hospital's General Medicine Clinic won a \$783,000 Johnson grant to strengthen its service over a period of four years.

Radiologic Technology

A two-year program for radiologic technologists is offered by the Department of Radiology at University Hospital. This course covers anatomy and physiology, radiologic physics, quality assurance, radiographic procedures, pathology, medical terminology, computer literacy, nursing procedures,

and professional ethics. Subjects taken do not carry WVU credit, but provision to transfer course work under the Board of Regents bachelor of arts program may be pursued. Clinical education is acquired on assigned tours of duty under the tutelage of staff members and clinical instructors.

Candidates must be graduates of accredited high schools with scholastic and personal records acceptable to the Admission Committee. All students are required to take either the American College Testing Program (ACT) tests or the Scholastic Aptitude Test (SAT) and have the report of scores sent to WVU prior to the admission decision. Students admitted on the basis of SAT scores must submit results of the ACT by the end of the first semester of their freshman year.

Students provide their own lodging and meals. Those completing the program are awarded a certificate and are eligible to take the American Registry Examination.

Communications should be addressed to: Coordinator, Radiologic Technology Training, Department of Radiology, West Virginia University Hospitals, Inc., Morgantown, WV 26506.

Dietetic Internship Program

The Dietetic Internship Program is offered by the Department of Nutrition and Dietetics of West Virginia University Hospitals, Inc. The internship is a 44-week generalist program providing learning experience in administrative and clinical dietetics, and is accredited by The American Dietetics Association. Upon successful completion of the program, the intern is recommended for membership in The American Dietetic Association and is eligible to complete the National Registration Examination.

Admission requirements are: completed bachelor's or advanced degree from an accredited college or university with courses meeting ADA Plan IV Program Requirements in general dietetics and at least a 2.75 overall grade-point average with a 2.25 in science courses and 3.0 in food and nutrition courses. Applications should reach the Internship Director by February 20. Appointments will be made in April for entrance in September.

Appointments to the program will be based on personal goals and expectations as identified in the letter of application, evidence of scholastic performance, work experience, extracurricular activities, scholastic honors received, letters of reference, and personal interview with the screening committee.

Communications should be addressed to:

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Department of Nutrition and Dietetics
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1986

JANUARY							FEBRUARY							MARCH							APRIL						
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1987

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The panels in high relief using white Georgia marble on the Medical Center pylons (shown on the front cover) were first done by sculptor Milton Horn as plaster models. The full-size plaster studies above serve as a permanent exhibit in the lobby of the Charleston Division.



Medical Education Building of the Charleston Division—WVU Medical Center.

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Morgantown, WV 26506

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Medical Center Catalog

1987-88 BULLETIN

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graduation.



West Virginia University Medical Center 1987-88 Catalog

Medical Center Basic Sciences

School of Dentistry

Dental Hygiene

School of Medicine

Medical Technology

Physical Therapy

School of Nursing

School of Pharmacy

The 1987-88 West Virginia University Medical Center Catalog is a general source of information about course offerings, academic programs and requirements, expenses, rules, and policies. The courses, requirements, and regulations contained herein are subject to continuing review and change by the West Virginia Board of Regents, University administrators, and the faculties of the schools and colleges to best meet the goals and objectives of the University. The University, therefore, reserves the right to change, delete, supplement, or otherwise amend at any time the information, course offerings, requirements, rules, and policies contained herein without prior notice.

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UNIVERSITY CALENDAR, 1987-88

Summer Sessions, 1987

May 18, Monday	Registration, First Summer Session
May 18, Monday	First Classes
May 25, Monday	Memorial Day Recess
June 29, Monday	Last Classes
July 1, Wednesday	Registration, Second Summer Session
July 1, Wednesday	First Classes
July 3, Friday	Independence Day Recess
August 12, Wednesday	Last Classes

First Semester, 1987-88

August 20, 21, Thursday and Friday	New Student Orientation
August 21, Friday	General Registration
August 24, Monday	First Classes
August 24, Monday	Late Registration Fee in Effect for All Students
August 28, Friday	Last Day to Register, Add New Courses, Make Section Changes, Change Pass/Fail and Audit
September 7, Monday	Labor Day Recess
September 24, 25, Thursday and Friday	Rosh Hashanah—Days of Special Concern
October 3, Saturday	Yom Kippur—Day of Special Concern
October 9, Friday	Mid-Semester
October 13, Tuesday	Mid-Semester Reports Due
October 30, Friday	Last Day to Drop a Class
November 21, Saturday, to November 29, Sunday, inclusive	Thanksgiving Recess
December 10, Thursday	Last Day to Withdraw From University
December 11, Friday	Last Classes
December 14, Monday, to December 19, Saturday, inclusive	Final Examinations
December 20, Sunday, to January 7, Thursday, inclusive	Christmas Recess

Second Semester, 1987-88

January 8, Friday	General Registration
January 11, Monday	First Classes
January 11, Monday	Late Registration Fee in Effect for All Students
January 15, Friday	Last Day to Register, Add New Courses, Make Section Changes, Change Pass/Fail and Audit
January 18, Monday	Martin Luther King, Jr. Birthday Recess
February 7, Sunday (Not a Holiday)	West Virginia University Day
February 26, Friday	Mid-Semester
March 1, Tuesday	Mid-Semester Reports Due
March 5, Saturday, to March 13, Sunday, inclusive	Spring Recess
March 25, Friday	Last Day to Drop a Class
April 1, Friday	Friday Before Easter Recess
April 2, Saturday	Passover—Day of Special Concern
April 12, Tuesday	Faculty Assembly
April 28, Thursday	Last Day to Withdraw From University
April 29, Friday	Last Classes
May 2, Monday, to May 7, Saturday, inclusive	Final Examinations
May 9, Monday	Grade Reports for All Graduates Due in Dean's Office
May 9, Monday	Dean's Reports for All Graduates Due in Office of Admissions and Records
May 10, Tuesday	Primary Election Recess
May 14, Saturday	Alumni Day
May 15, Sunday	Commencement

The WVU academic year is divided into two semesters of about seventeen weeks each and summer sessions.

West Virginia University Medical Center

Medical Center services are growing and its plant is expanding as West Virginia's only university-based health center begins its fourth decade of service.

A revitalized cardiothoracic surgery service and kidney transplant program highlight the service growth, and the year 1987 will see completion of the center's new \$87 million teaching hospital. The 376-bed Ruby Memorial Hospital replaces WVU Hospital which admitted its first patients in August, 1960. Under authorizing legislation passed in 1984, a new, not-for-profit corporation was established as West Virginia University Hospitals, Inc., to own and operate teaching hospital facilities. It also will include a psychiatric hospital, a children's hospital, and an ambulatory care center. They will provide state-of-the-art care and teaching facilities for Medical Center patients and for students and resident physicians and dentists.

When the Basic Sciences Building was opened in 1957 only 113 students were enrolled. The number today, including graduate students, is nearly 1,600 in dentistry, medicine, nursing, pharmacy, and related fields. Dentistry enrolls nearly 240, including 80 in dental hygiene; medicine some 315; nursing about 350; and pharmacy more than 180. Graduate programs in the basic sciences, dentistry, medical technology, nursing, and pharmacy enroll nearly 260 students, and some 200 medical and dental residents are taking specialty training.

By the end of its thirtieth year of operation, the WVU Medical Center had educated and trained an estimated 10,000 health professionals including more than 7,300 in medicine, dentistry, nursing, and pharmacy, and some 2,600 new doctors who received specialty training.

Prior to 1957 WVU offered compete programs only in medical technology and pharmacy. A two-year School of Medicine required students to transfer to out-of-state schools to finish their studies. No educational opportunities existed in dentistry or nursing at WVU. The Medical Center now produces graduates qualified to meet most of the health needs of West Virginia citizens. It also reinforces and updates its teaching with continuing education programs and serves as both a referral and information resources center for the state's physicians and other health professionals.

The Basic Sciences Building and University Hospital, which opened in 1960, join together as a single unit to make up the Medical Center. After the new Ruby Memorial Hospital is in full use in 1988, as a related but independent institution, the present hospital building will be used for other University purposes, many of them not yet determined. WVU Hospitals, Inc., plans to lease some 50,000 square feet including its present administrative offices and the laundry facilities. Ruby Memorial is adjacent to and south of the original hospital.

Nonacademic policies and regulations affecting students are summarized in the *Student Handbook*. Students are urged to obtain a copy of the *Student Handbook* from the Division of Student Affairs, 205 Moore Hall.

(For additional information concerning WVU Hospitals, Inc., see pages 142-143 and 177-178.)

The Charleston Division of the Medical Center and the Wheeling Division of the WVU School of Medicine augment the Medical Center's outreach programs and expand the patient base. By extending the teaching scope of the University's programs, they influence health care and education in every part of the state.

Established in 1972 by an agreement between WVU and the Charleston Area Medical Center—the state's largest hospital complex—the Charleston Division serves students in dentistry, medicine, nursing, pharmacy, and allied health fields and offers postgraduate specialty training. The \$6 million Education Building opened in 1977 as a resource for clinical learning.

The Wheeling Division was started in 1974 in cooperation with the Ohio Valley Medical Center and Wheeling Hospital. A joint Wheeling Area Medical Education Committee oversees the program, which offers elective opportunities for medical students and postgraduate specialty training.

Dental Clinic

Clinical training and experience constitute a major part of the curriculum for dental and dental hygiene students. Facilities for dental and dental hygiene students include 160 treatment cubicles and all necessary related laboratories. Patients are accepted for treatment if their dental problems are of teaching value and if a student is available for assignment. The student is assigned to a patient and must work under close supervision of a faculty member. The clinic programs provide practical experience for the students and a much needed service to several thousand patients annually.

University Health Service

The University Health Service provides primary medical care for WVU students, faculty, and staff. Currently enrolled students who pay the Health Service fee and have a current ID card may use the service, which covers medical consultation and treatment at the Health Service on the Ground Floor of University Hospital. Patients requiring specialized care may be referred to the Outpatient Clinics at the Medical Center. The patient will be responsible for the fees thus incurred (registration charge, physician's fee office, x-ray, laboratory, etc.).

When the Health Service is closed, the Emergency Department is available for care. Costs incurred at the Emergency Department are the responsibility of the student. Informed and responsible use of this area is encouraged because most insurance policies cover such costs only if the visit was truly an emergency. A voluntary insurance plan is available to students to cover the cost of inpatient and outpatient services beyond primary care. Students are strongly advised to obtain such coverage. Details are available in a Health Service brochure.

Library

The Medical Center Library serves the students, faculty, and staff of the four Medical Center schools and the hospital. Its services are available to health professionals throughout West Virginia and, within certain guidelines, to the general public.

The library in the Basic Sciences Building contains more than 175,000 bound volumes. About 2,300 domestic and foreign periodicals are currently received.

The Medical Center Library and other University libraries maintain an active interlibrary loan service. Material not in WVU libraries may be borrowed from libraries in other cities.

The library is open, except on holidays, from 8:00 a.m. to 12 midnight, Monday through Thursday; from 8:00 a.m. to 11:00 p.m., Friday; from 9:00 a.m. to 6:00 p.m., Saturday; and from 1:00 p.m. to 11:00 p.m., Sunday. Changes in scheduled hours are posted in advance.

Undergraduate Admission Policies

Admission to West Virginia University is governed by policies established by the Faculty Senate, the University administration, and the West Virginia Board of Regents. All University admissions are governed by the following general policies:

1. The primary responsibility of the University is to the residents of the state of West Virginia. Consequently, preference will be given to West Virginia residents in various admission processes.

2. Within the space available in specific programs, admissions will be offered preferentially to those whose performance record indicates the highest probability of success in the chosen program.

Admission of Freshman Students

High school students may obtain applications for admission from their high schools or by contacting the Office of Admissions and Records (Box 6009, Morgantown, WV 26506-6009, telephone 304-293-2121). You may also use our toll free numbers:

1-800-344-WVU1 in-state

1-800-344-WVU2 out-of-state

Applicants must complete their part of the application and then return it to their school. The school should send the completed application, an official transcript of the student's high school grades, and the course list for the senior year (if applicable) directly to the WVU Office of Admissions and Records. All applications must include an official transcript from an accredited high school. Upon graduation, it is the student's responsibility to have a final official transcript with certification of graduation sent to the Office of Admissions and Records.

All students are required to take either the American College Testing (ACT) Program tests or the Scholastic Aptitude Test (SAT) and have the report of scores sent to West Virginia University prior to the admission decision.

General Credit Requirements

All applications must include an official transcript of the high school record. To be considered for admission to West Virginia University, an applicant must present the following high school credits:

English—4 units.

Biology—1 unit.

Social Studies—3 units.

Mathematics—2 units of college preparatory mathematics, one of which must be algebra (all students), 2 units of algebra and 1 unit of geometry for students wishing to enter any program requiring a specific math course for graduation.

Electives—8 additional units chosen from the areas of Fine Arts, Science, Mathematics, Computer Science, Foreign Languages, and Communication.

(No later than the Fall of 1990, 1 more unit of a laboratory science will also be required.)

Some colleges, schools, and programs have admissions standards that exceed the minimum requirements listed above.

Grade-Point Average (GPA); Test Score Requirements

For freshman admission, performance is measured by high school grade-point average and ACT or SAT test results. The following are minimum requirements. Selected programs may require a substantially higher grade-point average and/or test results.

High school seniors who rank in the upper 5 percent of their graduating class, have an ACT composite score of at least 28, (SAT total of at least 1140), or are National Merit Semifinalists will be admitted without regard to residence, assuming the student meets the General Credit Requirements.

West Virginia Residents

West Virginia residents who satisfy the General Credit Requirements and have at least a 2.0 high school grade-point average and a composite American College Testing (ACT) Program score of at least 16 (or SAT total score of 740) will be admitted to West Virginia University. Residents who satisfy the General Credit Requirements and have *either* at least a 2.0 high school grade-point average *or* composite ACT score of at least 16 (or 740 combined SAT) *will be considered* on an individual basis by the Admissions Review Committee.

Nonresidents

Nonresidents who satisfy the General Credit Requirements and have at least a 2.25 high school grade-point average and a composite ACT score of at least 18 (SAT total score of 800) *will be admitted*. Nonresidents who satisfy the General Credit Requirements and have at least a 2.25 high school grade-point average *or* a composite ACT of at least 18 (or 800 SAT) *will be considered* on an individual basis by the Admissions Review Committee.

Admission to Medical Center Programs

Applicants for admission to any of the schools of the WVU Medical Center should write to the Assistant Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506, requesting the appropriate application forms. (The WVU Medical Center Catalog has complete information for all Medical Center programs and is available at the Office of Admissions and Records.)

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

When requesting an application by letter for any of the Medical Center programs, the permanent home address must be given.

Dentistry and Medicine applications fees are \$30.00. All other WVU medical science programs are \$10.00 and must accompany the applications.

Any applicant who is refused admission, or who fails to enroll after acceptance, must re-apply in the regular manner if consideration for a subsequent year is desired.

Those applicants accepted for admission to any of the programs of the WVU Medical Center, except the Division of Dental Hygiene and out-of-state applicants to the School of Dentistry, are required to deposit \$50.00 before acceptance becomes official. Applicants accepted to the Division of Dental Hygiene deposit \$40.00, and out-of-state applicants accepted to the School of Dentistry, deposit \$100. If the applicant enrolls in the program of the applicant's choice, the deposit is applied to the first-semester tuition.

If an application for admission to the School of Medicine is withdrawn after the applicant has been offered a place and has submitted a deposit, such deposit may be refunded any time before March 30 of the year in which enrollment is anticipated, but will not be refunded after this date. Deposits submitted to all other programs are nonrefundable.

It is required that during the first semester of the first year all WVU Medical Center students must complete certain prescribed immunization and diagnostic procedures.

Admission of Transfer Students

Admission as a transfer student is available to those students who present evidence of 12 transferable credit hours or more from an accredited post-secondary institution. Applicants with fewer than 12 transferable hours of credit must apply for freshman admission. All applicants with fewer than 29 transferable credit hours are ranked as freshmen and must submit ACT or SAT scores and high school transcripts as part of their applications.

Students wishing to transfer with more than 58 hours of transferable credit should be admissible to a specific degree-granting program within the University before formal admission is granted. Individual consideration will be given to a limited number of students with more than 58 transferable hours who do not meet specific major requirements.

Acceptance of students with 58 or fewer transfer credit hours into some areas, e.g., engineering, pre-business and economics, and pre-computer science, will be determined by the number of available positions as well as the academic credentials of the student.

To be eligible to enroll as a transfer student at WVU, any student—regardless of residence—must present a minimum grade-point average of 2.0 in all college work attempted. Some individual programs, however, have higher grade-point average requirements.

Applicants for transfer from another college or university must submit to the Office of Admissions and Records a complete application for undergraduate admission and an official transcript of all college work attempted to date at least two months prior to the semester for which the applicant requests admission. An official transcript covering subjects subsequently taken must be sent before final admission is granted.

A complete application must include Catalog pages from the institution attended describing all subjects which have been or will have been completed. The applicant's name should be written on each page and each subject must be indicated by a check mark in the margin. Complete catalogs should not be sent. (*Catalog pages describing courses taken at West Virginia Board of Regents institutions need not be submitted.*)

Credits and grades for those baccalaureate-level courses completed at any baccalaureate degree-granting institution in the West Virginia state system of higher education may be transferable toward a bachelor's degree, if appropriate to that degree. No more than 72 hours of credits and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia state system may be transferable toward a bachelor's degree, if appropriate to that degree.

Credits (though not grades) are transferable from institutions outside the West Virginia state system for courses carrying a grade of C or higher, if appropriate to the degree.

Credits from two-year community colleges and junior colleges outside the West Virginia state system are limited to 72 hours of lower-division courses. These colleges must be accredited by the North Central Association of Colleges and Schools or other regional accrediting associations.

The transfer of credits does not exempt the student from satisfying all the requirements for the student's degree program at WVU.

Evaluation of transcripts for transfer of credit is furnished only after receipt of complete official transcripts and provisional admission to WVU. Therefore, a complete application and all transcripts must be in the Office of Admissions and Records two months in advance of registration.

Intrauniversity Transfers

Students transferring from Potomac State College of West Virginia University shall be considered intrauniversity transfers. Students will be eligible for transfer as long as they can be considered students in good standing at WVU. All records made at Potomac State College are part of the student's West Virginia University record, but no more than 72 hours of credits may be applied toward the baccalaureate degree. Students desiring to enter a specific degree-granting program will have to meet all of that program's admission requirements.

Admission of Post-Baccalaureate Students

Students possessing one or more earned degrees from an approved college or university and desiring to enroll for undergraduate credit may be admitted as post-baccalaureate students. Students admitted in this category are not working toward a graduate degree and credit earned while under this

classification is limited to undergraduate credit. Post-baccalaureate students enrolling in undergraduate courses are assessed undergraduate fees. Candidates for admission to this classification who are not graduates of WVU must submit an official transcript from the institution granting their latest degree.

Second Bachelor's Degree

Persons desiring to obtain a second bachelor's degree must submit an undergraduate application. In general, admission will be granted on the basis of a cumulative grade-point average of at least 2.0 in the first baccalaureate degree. Selected majors have higher requirements, i.e., Engineering, and Business and Economics.

Admission of International Students

International students must comply with the academic requirements stated above and, in addition, academic and nonacademic requirements:

English Proficiency

All international applicants whose native language is not English must submit Test of English As a Foreign Language (TOEFL) scores. A minimum of 550 is required for admission. *NOTE:* In certain programs, provisional admission is possible for students with scores lower than 550 on the TOEFL. In such cases, students are admitted provisionally on the basis of their academic record, contingent upon submission of satisfactory TOEFL scores or satisfactory completion of the WVU Intensive English Program.

Credentials

Complete and original official records of all studies undertaken by an applicant at any institution attended (secondary school, college, university, technical school, etc.) must be provided at time of application for admission. Copies of original records are acceptable, provided they are officially stamped.

Such records should include: (1) complete dates of attendance; (2) identification of individual subjects; (3) total number of hours in each class per week; (4) total number of weeks each class meets in session; (5) final grade in each subject, for each year; (6) actual credits earned for each subject; (7) class, division, or rank achieved; (8) identification of the individual; (9) explanation of each institution's grading system; and (10) certification, and date, of degree or awards achieved. If any of this information cannot be supplied, an official explanatory statement from the school should be submitted. *(All documents must be accompanied by certified English translations.)*

All documents should be forwarded directly from the registrar or other authorized official of the school to the WVU Office of Admissions and Records, P.O. Box 6009, Morgantown, WV 26506-6009 USA.

If an applicant is currently enrolled in a school, tentative admission may be granted on the basis of an incomplete record which indicates the applicant will unquestionably meet the admission standards. Final admission, however, cannot be approved until the complete record has been received and evaluated. No student should move to Morgantown without having received an assurance of admission from WVU.

Special Conditions

Readmission

Undergraduate students who have left the University for at least one complete semester are required to submit an application for readmission to the Office of Admission and Records. Decisions on readmission will be based on the student's WVU record together with that earned at any other institution the student might have attended after leaving WVU. Students in good standing based on a combination of these records are eligible for readmission.

Students who have been suspended from the University must have written approval from the dean of the school or college to which they wish to be admitted before an application for readmission is submitted.

Graduate Credit Via Senior Petition

Undergraduate students wishing to obtain graduate credit by senior petition must obtain the standardized permission form from the Office of Admissions and Records. This form requires the signature of the student's undergraduate adviser and the head of the unit offering the graduate course.

The policies regulating an undergraduate's enrollment in the graduate-level course for graduate credit are:

1. Enrollment is only permitted in courses numbered 300-399.
2. The undergraduate must be within 12 credit hours of his/her baccalaureate degree and have a grade-point average of 3.0 on a 4.0 scale.
3. The maximum amount of graduate credit permitted by senior petition is 12 credit hours.
4. The senior petition must be approved prior to or at the time of enrollment.

Approved senior petitions are to be returned to the Office of Admissions and Records so that a notation of graduate credit may be placed on the student's transcript.

Any exceptions to the regulations must be approved by the dean of the school or college in which the student seeks graduate credit.

Note: Student receiving graduate credit for a course do not receive credit toward their undergraduate degree with the same course.

Academic Forgiveness Policy

The Academic Forgiveness Policy allows a second chance to students who were unsuccessful in their initial higher education enrollment.

If a student has not been enrolled at a West Virginia Board of Regents institution for at least five calendar years and has not been enrolled in any other academic institution of higher learning during those five years, then the student may be eligible for admission or readmission to WVU under the Academic Forgiveness Policy.

The conditions and rules of the Academic Forgiveness Policy are as follows:

- a. Admission to WVU under the Academic Forgiveness Policy is conditional upon satisfying the above stated non-enrollment period. In addition, a recommendation that the student be admitted under the Academic Forgiveness Policy must be submitted by the dean of the college or school that the student plans to enter and the recommendation must be approved by the Office of the Vice President for Academic Affairs.

b. Upon admission to WVU under this policy, the student will be credited with the hours earned for courses completed with a grade of D or higher.

c. Grades earned during any prior enrollment period will not be counted for purposes of calculating the student's grade-point average, but grades earned will remain on the student's permanent record.

d. The student must meet and complete all course work required to meet the college's or school's requirements for graduation, but under no circumstances after the student has been admitted under the Academic Forgiveness Policy shall the student complete fewer than 64 credit hours prior to earning his/her degree.

e. A student admitted to WVU under this policy will follow all regulations regarding probation, suspension, and expulsion.

Transient

West Virginia University students wishing to take courses at other institutions must seek advanced approval in writing. A cumulative grade-point average of at least 2.0 is required in order to obtain such approval. Credit will be accepted for transfer for courses carrying a grade of C or higher when the conditions indicated above have been met.

Students from other institutions who desire to take individual courses at WVU for transfer to their home institutions need only submit a statement of good standing from the last college attended.

Special Students

Persons not desiring to become candidates for a degree or not meeting degree-program requirements may be admitted as special students. Such students are subject in all respects to the usual rules relating to registration and academic performance. Admission to any class is subject to the approval of the instructor in charge.

High School Specials

High school seniors desiring to take specific courses at WVU must present permission from the high school and their parents and must have a minimum 3.0 grade-point average. Registration is limited to 6 credit hours per semester.

Admission by Exception

Recognizing the need to accommodate certain students who would not otherwise qualify for admission, WVU may permit up to 5 percent of the admissions class based on the previous year's class to be admitted under an individual admission category. This category includes students who have exhibited exceptional aptitude or talent, e.g., art, music, writing, dramatics, or athletics. The educationally disadvantaged will also be given consideration under this category.

All students who have graduated from high school or received a GED diploma more than five years prior to seeking admission to WVU and have not attended another institution may have the requirement for ACT (or SAT) scores and course prerequisites waived at the discretion of the Office of Admissions and Records.

General Educational Development (GED)

Students who have received a GED diploma less than five years prior to seeking admission to WVU will have to meet ACT or SAT and course requirements for admission. Students must also supply a high school transcript.

Admission of Veterans

Veterans may be admitted to WVU with less than the minimum admission requirements necessary for other nonveteran applicants.

Information regarding educational opportunities made possible at the University through provisions of the Veterans Readjustment Benefits Act of 1966—G.I. Bill (Public Law 358), the Vocational Rehabilitation Program of the Veterans Administration (Public Law 16), and the War Orphan's Educational Assistance Act of 1956 (Public Law 634) may be obtained from a financial aid counselor by personal conference at the Student Financial Aid Office in Mountainlair, or by mail (P.O. Box 6004, Morgantown, WV 26506-6004). An amendment to Public Law 634, enacted in 1964, provides benefits to many dependents of 100 percent disabled veterans.

Veterans having at least one continuous year of active military service may receive advanced placement credit for General Physical Education 1 and 2. Proof of such military service must be presented to the Director of Admissions and Records.

Readmission

Undergraduate students who leave the University for at least one complete semester are required to submit an application for readmission to the Office of Admissions and Records. Decisions on readmission will be based on the student's WVU record together with that of any other institution the student might have attended after leaving WVU. Students remaining in good standing on a combination of those records are eligible for readmission.

Students who have been suspended from the University must have written approval from the dean of the school or college to which they desire to be admitted before an application for readmission is submitted.

Some students are unsuccessful in their initial higher education experience resulting in very poor grades and/or academic suspension. If such a student has not been enrolled at a West Virginia Board of Regents institution for at least five calendar years and has not been enrolled in any other academic institution of higher learning during those five years, then the student may be eligible for readmission to WVU under the Academic Forgiveness Policy.

Students wishing to change their major upon readmission must have permission from their previous dean and the dean of the school or college to which they desire to be admitted.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

Academic Information

Student Responsibility

The student is responsible for knowing his or her own scholastic standing in reference to the published regulations and standards of the University and of the college or school in which the student is enrolled.

Regulations Affecting Degrees

Listed below are the degree programs and the degree titles that are available at the West Virginia University Medical Center.

Health Sciences Programs At West Virginia University

Degree Program	Bachelor	Master	Doctorate
School of Dentistry			
Dental Hygiene	B.S.		
Dentistry			D.D.S.
Endodontics		M.S.	
Orthodontics		M.S.	
School of Medicine			
Anatomy		M.S.	Ph.D.
Biochemistry (Medical)		M.S.	Ph.D.
Medical Technology	B.S.	M.S.	
Medicine			M.D.
Microbiology (Medical)		M.S.	Ph.D.
Pharmacology and Toxicology		M.S.	Ph.D.
Physical Therapy	B.S.		
Physiology (Medical)		M.S.	Ph.D.
Biomedical Sciences			Ph.D.*
School of Nursing			
Nursing	B.S.N.	M.S.N.	
School of Pharmacy			
Pharmaceutical Sciences		M.S.	Ph.D.
Pharmacy	B.S.Pharm.		
University Hospital			
Medical Graduate Residencies			
Radiologic Technology	Certificate		

*Awarded under the auspices of the degree-granting authority of West Virginia University, but in cooperation with the Basic Sciences Departments of the Marshall University School of Medicine. (For details, see the WVU Graduate Catalog or the Marshall University Graduate Catalog.)

All degrees are conferred by the Board of Regents upon recommendation of the faculties of the various colleges and schools. Degrees are granted at the close of the semester or summer session in which the students complete their work.

Candidates for degrees are eligible for graduation when they complete the requirements in the college or school in which they are registered which were in effect at the time of their first registration in that college or school, provided they graduate within a period of seven years from the time of their first registration. Students who do not complete the requirements for graduation within seven years from their first registration must meet *all the conditions of a later Catalog* — one that will be no more than seven years old by the time they graduate.

If there are major changes in the *Undergraduate Catalog* during the student's course of study, the student does not have to abide by them unless they are promulgated by the Board of Regents, or by local, state, or federal law. However, by choice and with the approval of the adviser and the dean, a student may meet *all the conditions of a later Undergraduate Catalog* than that under which the student first registered in that college or school.

All candidates for degrees at WVU must report to their academic advisers and fill out an "Application for Graduation and Diploma." Application must be made during the first month of the semester or session in which the candidate expects to be graduated.

University policy provides that in view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of WVU the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

No degree will be conferred upon any candidate and no transcripts will be issued to any student before payment is made of all tuition, fees, and other indebtedness to any unit of the University.

Baccalaureate Degrees

Credits Required

In addition to the University requirements listed in this *Catalog*, each baccalaureate degree is conditional upon the completion of a specified number of semester hours of credit, as determined by the student's degree program requirements. Therefore, students must familiarize themselves with their school and degree program requirements.

English Composition and Rhetoric

Two semesters of English Composition and Rhetoric (English 1 and 2) are required of all candidates for the bachelor's degree in all colleges and schools of the University, unless part or all of the requirement for certain students of superior achievement is waived under regulations prevailing at the time of admission. Such students will be informed of their eligibility by the Coordinator of Writing Programs in English.

University Core Curriculum

[NOTE: At the time this Catalog went to press, the WVU Faculty Senate was considering major changes in the University Core Curriculum. Students are urged to consult with their advisers to determine the effect of the changes on their programs of study. The new core curriculum program will be titled Liberal Studies Program (LSP).]

To qualify for graduation, all WVU students must satisfy the requirements of the University Core Curriculum. The separate colleges and schools determine the time at which students take core courses during their total program of study at the University.

The purpose of the University Core Curriculum is to encourage the acquisition of a liberal education. A liberal education presupposes the capacity for synthesizing knowledge of the humanities, social sciences, natural sciences, and mathematics. Such a synthesis of both past and contemporary knowledge can make possible the intellectual flexibility needed to develop values, attitudes, tastes, and traits associated with the educated person in the modern world.

Three areas within the University Core Curriculum are recognized: Core A (the study of the accumulated knowledge and experience contained in world literature, fine arts, religion, and philosophy; Core B (the study of man's interaction with man and with society in the social, historical, political, economic, and similar contexts); and Core C (the study of mathematical and natural sciences designed to foster individual acquisition of knowledge and skills necessary for scientific inquiry).

Twelve credit hours including at least two subjects must be taken in each area. (Two 4-credit courses and one 3-credit course may be substituted in lieu of 12 credit hours.)

The determination as to whether ROTC courses will be counted toward fulfillment of the University Core Curriculum or will be counted as free electives is the prerogative of the department chairperson or dean of the appropriate college or school.

Core A Courses:

Art (Art) 3, 30, 100, 105, 106, 200.

Communication Studies (Comm.) 11-14, 21, 80, 105-109, 111, 131, 133, 161, 180, 187, 191, 206, 221, 230-231.

English (Engl.) 21-22, 24-25, 35-36, 40, 45, 80, 85, 101-104, 106, 108, 111-113, 125, 130-134, 141, 143, 145, 150, 170-172, 175, 178, 180-181, 183, 186, 188, 191, 197, 201-202, 208, 210-211, 220, 223, 232-233, 235-236, 240-241, 245, 250, 255-256, 261-268, 280, 283, 288, 290, 294.

Foreign Languages:

Chinese (Chin.) 191.

Classics (Class.) 1-4, 11-14, 101-102, 109-110, 113, 165, 192.

Foreign Literature in Translation (FLIT) 13-18, 111-112, 121-122, 131-132, 141-142, 151-152, 155, 161-162, 171, 181-182, 191-192.

French (Fr.) 1-4, 10-11, 21-24, 33-34, 101-104, 109-112, 115, 118.

German (Ger.) 1-4, 10-11, 23-24, 33-34, 103-104, 109-112, 121-122, 131, 191.

Hebrew (Hebrw.) 1-4, 191.

Italian (Ital.) 1-4, 109-110, 191.

Japanese (Japan.) 191.

Linguistics (Lingu.) 1-3, 111.

Polish (Polsh.) 1-2.

Portuguese (Port.) 1-4.
 Russian (Russ.) 1-4, 103-106, 109-110, 144-145.
 Spanish (Span.) 1-4, 10-11, 23-24, 33-34, 103-104, 109-110, 116-118, 121-122, 191.
 Humanities (Hum.) 1-5, 10-11, 191, 290.
 Multidisciplinary Studies (MDS) 40, 90, 91, 92.
 Music (Music) 19, 30-31, 33-34, 61-68, 100, 102-103, 105, 110, 113, 115, 129-130, 135-138, 160, 171-172, 174, 200, 213, 218-219, 221-225, 230, 239, 243, 260, 263-268, 299.
 Philosophy (Phil.) 1-292 (except Phil. 190).
 Religious Studies (Relig.) 5-150, 197.
 Theatre (Theat.) 30, 50, 74, 95, 106, 180, 200, 220-221, 251, 282, 290-291, 295-298.
 Women's Studies (Wom. St.) 40.

Core B Courses:

Child Development and Family Studies (CD&FS) 10, 12, 110.
 Economics (Econ.) 51, 54-55, 110, 130, 160, 200, 211-213, 216, 241, 245-246, 250, 255, 257, 262-263, 270, 279.
 Education Foundations (Ed.F.) 1.
 Forestry (For.) 140.
 Geography (Geog.) 1, 7-8, 105, 107, 109-110, 140-141, 143-145, 150, 200-202, 205, 209, 215, 235.
 History (Hist.) 1-290.
 Mineral Resource Economics (M.E.R.) 97.
 Multidisciplinary Studies (MDS) 2, 40, 50, 60, 70, 90, 91, 92, 250. Note: MDS 80, "Special Topics," when offered as "Labor in America," may also be credited to Core B.
 Political Science (Pol. S.) 1-279. (Note: Pol. S. 188-189, 191, 195-196, and 200 **are not** core courses.)
 Psychology (Psych.) 1-282 (except Psych. 25, 190, 194, 213).
 Sociology and Anthropology (Soc. & A.) 1, 5, 51, 102, 121-123, 125, 131-133, 135-136, 138, 140, 145, 151-153, 156-160, 201-202, 204-205, 222, 232-233, 240, 255, 260-262.
 Sport and Exercise Studies (S.E.S.) 71.
 Technology Education (T.E.) 280-281.
 Women's Studies (Wm. St.) 40.

Core C Courses:

Agricultural Microbiology (Ag. Micro.) 141, 201.
 Animal Nutrition (An. Nu.) 101.
 Animal Physiology (An. Ph.) 100, 225, 256, 280.
 Biology (Biol.) 1-271.
 Chemistry (Chem.) 10-250.
 Computer Science (C.S.). All Computer Science courses, except those numbered 190-197, qualify for Core C; however, the only undergraduate Computer Science courses open to non-majors are C.S. 5 and C.S. 60.
 Economics (Econ.) 125, 220, 225.
 Entomology (Ento.) 152, 204, 210, 212.
 Genetics (Gen.) 171, 290.
 Geology (Geol.) 1-4, 7.
 Mathematics (Math.) 3-292.
 Multidisciplinary Studies (MDS) 2, 60, 70, 90, 91, 92.

Nutrition (Nutrn.) 71.

Physical Science (P. Sci.) 1-2, 11-12.

Physics (Phys.) 1-283; Astronomy (Astro.) 106, 216, 267.

Statistics (Stat.) 101, 201-291.

Academic Advising and General Studies Status

Advisers

Each student entering WVU is assigned an adviser whose duty is to assist students in preparing schedules, assign them to classes, and certify their study lists to the Director of Admissions and Records. The advisers are expected to give such advice and sympathetic guidance as the students may need in their work at the University. Students are expected to go freely to their advisers to discuss problems.

Advisers, upon receipt of reports of excessive numbers of absences, shall have conferences with the student concerned and shall make such recommendations and adjustments as are desirable and feasible. If the adviser does not find a satisfactory solution after a conference with the student, the case shall be reported to the dean of the college or school.

Students admitted to programs in the Colleges of Agriculture and Forestry, Creative Arts, Engineering, Mineral and Energy Resources, the School of Physical Education, and the Division of Dental Hygiene may enroll directly in the appropriate degree program.

The Colleges of Arts and Sciences and Human Resources and Education and the School of Social Work admit students to pre-programs in their majors. Students are assigned special academic advisers who will help them until they fulfill all requirements for admission to a degree program.

Other students may begin their work in one of the University's pre-programs, e.g. pre-Business and Economics, pre-Journalism, pre-Medical Technology, pre-Nursing, pre-Pharmacy, and pre-Physical Therapy. Normally, completion of 30-68 credits and a specific curriculum are required before admission to a degree program is granted. Students enrolled in these pre-programs are advised in the University Advising Center, where full-time professional advisers are available in each of these areas.

Students who are undecided about their major may enroll in General Studies. This possibility provides the undergraduate student with an opportunity to explore several career and academic program options before selecting a specific major or program of study. While examining options, students will enroll in courses that fulfill University requirements for graduation and provide a solid liberal arts foundation. A student may remain in General Studies through four semesters of college course work or until admitted to a degree program. Students selecting General Studies will be advised in the University Advising Center. Advising Center staff also provide services to part-time and special (non-degree) students.

Branch, Community, and Junior Colleges

Seventy-two hours of credits and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia system of higher education may be applied toward a baccalaureate degree at WVU. Transfer credit for college-parallel courses completed at other community colleges and junior colleges may not exceed 72 hours. Transfer credit from community colleges and junior colleges is normally limited to lower-division courses.

Requirements As to Residence

A student who comes to WVU from another college or university should transfer not later than the beginning of the third year. In no case will a student who matriculates at WVU later than October 1 in any year be permitted to receive a degree at the next commencement.

In special cases, students who desire to leave WVU at the close of their third year to enter another institution for the purpose of taking a combined course leading to two degrees or of preparing for graduate study, upon application beforehand to the Committee on Academic Standards of the college or school in which they are registered, may be permitted to do the work of the fourth year, or a part thereof, at such other institution and to receive the bachelor's degree from WVU upon presentation of the proper credits.

The transfer student whose undergraduate work has been altogether in institutions within the West Virginia state system of higher education must complete either the last 30 hours of work, or a minimum of 36 hours including 16 of the last 32 hours in residence. Other transfer students must complete either a total of at least 90 hours or the last 30 hours in residence at WVU. The transfer student may be required to earn up to 15 hours in the major field in residence regardless of the number of hours and the nature of the courses transferred.

Work Done Out of Residence

It is WVU policy to discourage the taking of regular residence courses in absentia. In the case of courses begun at WVU and not completed because of illness or for other acceptable reasons, however, permission to complete the work in absentia under the direction of regular WVU instructors may be granted by the Committee on Academic Standards of the college or school concerned; but in such case credit should be given only upon a report of a grade of no less than C on final examination. This regulation does not apply to WVU off-campus courses.

If the final grade of a student in any course is F, the student must take the course again in residence at WVU if the student desires to receive credit for it, unless the dean of the college or school authorizes the exception.

A student currently enrolled in WVU who wishes to obtain credit toward a WVU degree for courses offered at other institutions should obtain advance approval in writing from the adviser, dean, and the Director of Admissions and Records. Some courses at some institutions are not directly transferable to WVU and, thus, the student runs the risk of losing such credit unless prior approval has been obtained. A student wishing to transfer credit from another

institution should also be aware of the "Requirements As to Residence" and the specific degree requirements described elsewhere in this *Catalog*. Transfer credit from institutions outside the West Virginia state system will be accepted only for courses carrying a grade of C or higher when conditions indicated above have been met.

A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at WVU upon readmission to the University. After one semester of satisfactory performance (C average or better on a minimum of 12 credit hours earned during the regular semester or during the summer sessions) the appropriate transfer credit will be entered into the student's record upon certification by the adviser and dean that the above conditions have been met.

Substitution for Required Courses

A student who desires to substitute another course for any prescribed in the student's curriculum or required for the degree toward which the student is working must obtain permission for such substitution from the Committee on Academic Standards in the student's college or school.

Advanced Credit

West Virginia University encourages students to work to their full capacity and to advance as rapidly as appropriate in their academic work. A number of opportunities are open to both qualified high school juniors and seniors, as well as to adults returning to school after an interval of work or military experience, to demonstrate competence beyond that normally associated with graduation from high school.

Advanced Placement Program

High school students who take college-level subjects offered in their schools in cooperation with the College Entrance Examination Board (CEEB) Advanced Placement Program should take the appropriate three-hour examinations administered by the Advanced Placement Service and have the scores sent to WVU. Credit for corresponding WVU courses will be given for high achievement on these tests.

To insure receipt of advancement placement credit, students should verify their test scores with Admissions and Records. (See table on page 22.)

Advanced Placement Program

Subject	Test Score	WVU Equivalent
ART:		
Studio Art	3	To be determined by Division of Art
Art History	3	To be determined by Division of Art
BIOLOGY	3	Biol. 1 and 2 (8 hr.)
CHEMISTRY	3	Chem. 15 and 16 (8 hr.)
COMPUTER SCIENCE	3	C.S. 1 and 2 (8 hr.)
ENGLISH:		
English Lang. & Comp.....	3	Engl. 1 (3 hr.)
English Lang. & Comp.....	4 or 5	Engl. 1 and 2 (6 hr.)
Lit. & Comp.	3	Engl. 35 (3 hr.)
Lit. & Comp.	4 or 5	Engl. 35 and 36 (6 hr.)
FOREIGN LANGUAGES:		
French Lang.	3	Fr. 103 and 104 (6 hr.)
French Lit.	3	Fr. 191 (3 hr.)
German Lang.	3	Ger. 103 and 104 (6 hr.)
Latin—Vergil	3	Class. 191A (3 hr.)
Latin—Catullus-Horace	3	Class. 191B (3 hr.)
Spanish Lang.	3	Span. 103 and 104 (6 hr.)
Spanish Lit.	3	Span. 191 (3 hr.)
HISTORY:		
European	3	Hist. 2 (3 hr.)
American	3	Hist. 52 and 53 (6 hr.)
MATHEMATICS:		
Math., Test AB.....	3	Math. 14 (4 hr.)
Math., Test AB.....	4 or 5	Math. 15 (4 hr.)
Math., Test BC	3	Math. 15 (4 hr.)
Math., Test BC	4 or 5	Math. 15 and 16 (8 hr.)
MUSIC	3	To be determined by Div. of Music
PHYSICS:		
Phys., Test B.....	3	Phys. 1 (4 hr.)
Phys., Test B.....	4 or 5	Phys. 1 and 2 (8 hr.)
Phys., Test C.....	3	Phys. 11 (4 hr.)
Phys., Test C.....	4 or 5	Phys. 11 and 12 (8 hr.)
NOTE: Students receiving AP credit for any Physics course will have to register for and complete the corresponding physics labs by special arrangement with the Department of Physics.		

Credit by Examination (CLEP)

Applicants for admission to the University, especially those who have gained a significant level of maturity through their life experiences, may gain college credit for their educationally related experiences through the College Level Examination Program (CLEP) of the CEEB. Policy of the West Virginia Board of Regents allows University credit to be awarded for successful completion of any of the CLEP Subject Examinations, except English composition, and freshman English, as well as allowing up to 34 hours of general education credit for successful performance on the CLEP General Examinations. Although the program is designed primarily for adults, exceptionally well qualified high school seniors may find it advantageous to seek advanced standing via the CLEP program. Interested applicants may write the Director of Admissions and Records for further information regarding the CLEP program and WVU credit. *(See table on page 24.)*

Advanced placement also may be granted for specific military experience. Returning veterans should consult the Director of Admissions and Records for details.

Newly admitted students may elect to take examinations demonstrating their competence in particular course work. Credit or advanced placement is given for satisfactory completion of the tests. Students interested in challenging courses by examination should consult their advisers for procedures and details.

Credit by Examination

Students actively enrolled in WVU may receive credit for courses demonstrating competency in the content covered by a particular course. The department responsible for administering the course will determine the evaluation tools. Where skill and cognitive abilities are components of the course, both will be evaluated. Credit will be given if a satisfactory degree of competency is demonstrated.

A college, school, or department may require students desiring such credit to prepare a self-evaluation statement determining the degree of competency they possess and the methods by which it was achieved.

Students interested in receiving credit for a course by examination should consult the college or school in which the course is offered for procedures and details.

College Level Examination Program

General Examinations	WVU Equivalent	Minimum Score Required
English Comp. (with essay)	English 1 (3 hr.)	590
English Comp. (multiple choice)	No credit	
Humanities	Untranslated LSP A (6 hr.)	500
Mathematics	Untranslated LSP C (4 hr.)	500
Natural Sci.	Untranslated LSP C (6 hr.)	500
Social Sci. & Hist.	Untranslated LSP B (6 hr.)	500
Subject Tests:		
American Lit.	Engl. 24 (3 hr.)	59
Analysis & Interpret. of Lit.	Engl. 35 (3 hr.)	59
College Comp.	No credit	—
English Lit.	English 22 (3 hr.)	60
Freshman Engl.	No credit	—
College French (levels 1 and 2)	Fr. 1 and 2 (6 hr.)	44
	Fr. 3 and 4 (6 hr.)	55
College German (levels 1 and 2)	Ger. 1 and 2 (6 hr.)	43
	Ger. 3 and 4 (6 hr.)	54
College Spanish (levels 1 and 2)	Span. 1 and 2 (6 hr.)	45
	Span. 3 and 4 (6 hr.)	54
American Govt.	Pol. Sci. 2 (3 hr.)	50
American Hist. I	Hist. 52 (3 hr.)	49
American Hist. II	Hist. 53 (3 hr.)	49
Western Civilization I	Hist. 1 (3 hr.)	50
Western Civilization II	Hist. 2 (3 hr.)	50
Educational Psychology	Ed. P. 103 (3 hr.)	49
General Psychology	Psych. 1 (3 hr.)	50
Human Growth and Development	CD&FS 10 (3 hr.)	51
Intro. Macroeconomics	Econ. 55 (3 hr.)	50
Intro. Microeconomics	Econ. 54 (3 hr.)	50
Intro. Sociology	Soc. & A. 1 (3 hr.)	50
College Algebra	Math. 3 (3 hr.)	48
Trigonometry	Math. 4 (3 hr.)	54
College Algebra/Trig.	Math. 14 (4 hr.)	50
Calculus with Elementary Functions	Math. 15 (4 hr.)	49
General Biol.	Biol. 1 and 2 (6 hr.)	49
	(no credit for the labs)	
General Chem.	Chem. 15 (4 hr.)	50
Computers and Data Processing	C.S. 1 (4 hr.)	49
Intro. to Management	Manag. 105 (3 hr.)	50
Intro. Accounting	Acctg. 51 and 52 (6 hr.)	54
Intro. Business Law	B. Law 111 (3 hr.)	51
Intro. Marketing	Mrktg. 111 (3 hr.)	50

Credit for Correspondence Work

Credit up to a maximum of 30 semester hours for work completed by correspondence in nonlaboratory courses will be accepted by WVU when such work is given by accredited colleges or universities that accept work for credit toward their own degrees and whose residence work is accepted by WVU.

Second Bachelor's Degree

A student who has received one baccalaureate degree and wishes to receive a second baccalaureate degree must satisfactorily complete enough additional credits so that the total, including all acceptable credits earned at WVU and elsewhere, is at least 30 semester hours more than the number required for the first baccalaureate degree; all requirements, departmental and otherwise, of the second baccalaureate degree program must be satisfied. In no case will a second baccalaureate degree be awarded to a student who has not met the University residence requirement (see "Requirements As to Residence").

A student who wishes to receive simultaneously two baccalaureate degrees must satisfactorily complete a minimum of 158 credits and meet all requirements, departmental and otherwise, of both degree programs. Students desiring to receive simultaneous baccalaureate degrees must be admitted to both programs. In addition, the student must provide the Office of Admissions and Records proof that he/she has the approval of the college or school involved.

(Effective Date: Students graduating after August 31, 1979.)

Visitors

Full-time University students may attend classes as visitors, provided they obtain the written permission of their advisers and of the instructors in classes they desire to visit. Members of the administrative or teaching staffs, or other regular employees of the University, may attend classes as visitors provided they obtain written permission of the chairpersons of their departments and of the instructors in the classes which they desire to visit.

No credit is given for work in such classes. Such persons may not obtain credit by advanced standing examinations in courses attended as visitors.

Auditors

Students may enroll in courses without working for grade or for credit by registering as auditors and by paying full fees. Change in status from audit to credit or from credit to audit may be made during the registration period. Attendance requirements for auditors shall be determined by the instructor of the course being audited. It is the prerogative of the instructor to strike the name of any auditor from grade report forms and to instruct the Office of Admissions and Records to withdraw the auditor from the class, if attendance requirements are not met.

Summer Sessions

There are two summer sessions, each of six weeks duration. The first session begins approximately the middle of May and ends June 30. The second session begins July 1, and ends the second week of August. Requirements for admission and character of the work offered are the same for the summer sessions as for the regular academic year.

Credit may be obtained toward the bachelor's, master's, and doctorate. Offerings are varied from summer to summer so that students may complete work for the master's degree by attending summer sessions only.

For complete information, see the *WVU Summer Sessions Schedule of Courses*.

Grade-Point Average

All academic units of the University require minimum standards of scholastic quality. Grade points are computed only on grades earned at WVU and at other institutions in the West Virginia state system of higher education. To be eligible for graduation, a student must have a grade-point average of 2.0 (C) or higher on all work for which the student receives grades (except W, WU, and P). In addition, specific degree programs may require minimum grades of C, or in some cases higher than C, in specific courses or portions of the baccalaureate program.

It is the student's responsibility to keep informed of the student's grade-point standing. This information may be obtained at any time from the dean of the college or school in which the student is registered.

Seventy-two hours of credit and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia system of higher education may be applied toward a baccalaureate degree at WVU. Transfer credit for college-parallel courses completed at other community colleges and junior colleges is normally limited to lower-division courses.

Graduation With Honors

The University recognizes distinguished academic achievement by awarding initial and second baccalaureate degrees *summa cum laude*, *magna cum laude*, or *cum laude* to qualified students. All candidates for a baccalaureate degree whose grade-point average is 3.8, or higher, shall be graduated *summa cum laude*. Those whose average is lower than 3.8, but equal to or higher than 3.6, shall be graduated *magna cum laude*. Those whose average is lower than 3.6, but equal to or higher than 3.4, shall be graduated *cum laude*.

1. Grade-point averages for graduation with honors shall be computed by starting with the student's penultimate semester or summer session and continuing in reverse chronological order until at least 80 semester hours of work taken at West Virginia University or other West Virginia Board of Regents institutions, excluding credits earned with a grade of P, have been counted. If in order to total the required number of hours it is necessary to include any part of a semester or summer session, the work of the whole semester or session shall be included. If it is to the student's advantage to do so, the cumulative grade-point average on all work completed at WVU or BOR institutions may be considered, provided that the total hours completed are 80 or more.

2. The student who does not complete 80 semester hours at WVU or a BOR institution by the end of the penultimate semester, may petition his or her dean for a review of his/her individual case. The dean will forward all requests to the Provost for the final decision.

3. Fitting recognition of graduation *summa cum laude*, *magna cum laude*, or *cum laude* shall be made on the candidate's diploma and in the Commencement Program.

Students completing a second baccalaureate degree at the University are eligible to receive the honors distinction of *summa cum laude*, *magna cum laude*, or *cum laude*. The following regulations govern these awards:

1. Grade-point averages for graduation with honors shall be computed on the last 80 semester hours, excluding credits earned with a grade of P or S, completed at West Virginia University or a West Virginia Board of Regents institution.

2. At least 30 of the 80 semester hours must have been completed in the second degree program through the penultimate semester or summer session. The remainder of the 80 semester hours will be counted from the student's first baccalaureate degree program, counting in reverse chronological order from the semester or summer session of graduation. If, in order to total the required number of hours it is necessary to include any part of a semester or summer session, the work of the whole semester or session shall be included.

3. Subject to the above conditions, second baccalaureate degree students may be awarded the following honors recognition: *summa cum laude*, provided a grade-point average of 3.8 or higher has been achieved in both the post-baccalaureate hours and the last 80 hours; *magna cum laude*, provided a grade-point average of 3.6 or better has been achieved in both the post-baccalaureate hours and the last 80 hours; or *cum laude*, provided a grade-point average of at least 3.4 has been achieved in both the post-baccalaureate hours and the last 80 hours.

4. Fitting recognition of graduation *summa cum laude*, *magna cum laude*, or *cum laude* shall be made on the candidate's diploma and in the Commencement Program.

Academic Progress Courses

As a rule courses extend through one semester only, although some are of a year's duration. No credit will be given for less than an entire course except by special order of the Committee on Academic Standards. Grades given at the end of the first semester in courses extending throughout the year are merely indicative of the quality of work done by the student to that point and do not give credit for the part of the course so far completed. Such first-semester grades may be considered in determining the final grade, however.

Summer sessions courses carry the same credit value as courses offered in the regular semesters.

Evaluation of Student Progress

Measurement and evaluation of learning, consistent with the objectives of the course, provide opportunity for the student and the teacher to evaluate progress through a variety of methods. Evaluation by final examination alone is discouraged.

Students are responsible for all materials presented or assigned in scheduled instructional sections. Failure to complete all assigned work may result in a report of I or a grade of F at the discretion of the instructor.

Final examinations are held during the last week of each semester of the academic year and during the last two days of each summer session. A listing in the *Schedule of Courses* each semester sets the time for final examinations.

The only tests permitted during the week of classes preceding finals will be in evening classes, practical laboratory tests, make-up examinations, and regularly scheduled short quizzes.

Students in evening sections of multi-section courses may be required to take departmental examinations during the regular final examination period.

Absence From Examinations

The student is required to take all regular examinations. If a student attends a course throughout the semester and is absent from the final examination without permission, the instructor shall count the examination as zero and report the final grade as F. If, in the opinion of the instructor, the absence of the student was for satisfactory reason, the grade of I may be reported.

A student who has been absent because of illness, authorized University activities, or other reasons approved by the student's dean, has the opportunity to make up regularly scheduled examinations.

Grading System

- A — excellent (given only to students of superior ability and attainment)
- B — good (given only to students who are well above average, but not in the highest group)
- C — fair (average for undergraduate students)
- D — poor but passing (cannot be counted for graduate credit)
- F — failure
- I — incomplete
- W — withdrawal from a course before the date specified in the University Calendar. Students may not withdraw from a course after the specified date unless they withdraw from the University
- WU — withdrawal from the University doing unsatisfactory work
- P — pass (see Pass-Fail Grading below)
- X — auditor, no grade and no credit
- CR — credit but no grade
- PR — progress. Final grade at end of the second semester (Medical Center)
- S — satisfactory
- U — unsatisfactory (equivalent to F)
- *F — unforgivable F, not eligible for D/F repeat policy (see pages 29-30)

Pass-Fail Grading

The basic purpose of pass-fail grading for undergraduates at WVU is to promote the undertaking of elective courses unrelated to the student's fields of degree concentration. A secondary purpose of pass-fail grading is to facilitate student grading in performance or competency based courses which may be an integral part of the student's program.

Student Option. Any full-time student who has completed 15 hours and maintains a 2.0 grade-point average may elect to take a maximum of 4 hours each semester or each summer session in which the grade earned will be either P (pass) or F (fail). The courses taken for pass-fail grading must be free electives and shall not exceed a total of 18 hours of credit. Unless otherwise indicated, excluded are courses in the student's major, courses in other subjects that are required by the major, and courses taken to satisfy either University, college, or school requirements. For example, courses elected to satisfy the English, University Core Curriculum, or Foreign Language requirements may not be taken for pass-fail grading.

The student electing the pass-fail grading option will be graded as a regular student and the appropriate letter grade will be submitted to the Office of Admissions and Records. The Office of Admissions and Records shall convert the earned letter grade to P-F on the basis of A, B, C, or D for a pass, and F for a fail.

The selection of a course for pass-fail grading must be made at registration and may not be changed after the close of the registration period.

College or School Option. A department or unit may designate any performance or competency based course which, with the approval of the college or school and the Faculty Senate, may be offered exclusively as P-F. Such courses offered only as P-F shall not be included in the maximum of 18 hours that may be freely elected under the student option.

(This revised policy became effective as of the beginning of the First Semester, 1977-78, for grading under the Student Option.)

Grade Points

Grade points are based on the following grade-point values for each semester of credit:

A	B	C	D	F	I	U
4	3	2	1	0	0	0

The grade-point average is computed on all work for which the student has registered with the following exceptions:

(a) Courses with W, WU, P, S, and X.

(b) The grade of I is given when an instructor believes that the course work is unavoidably incomplete or that a supplementary examination is justifiable. When a student receives a grade of I and later removes the incomplete grade, the average grade-point standing shall be calculated on the basis of the new grade. The grade of I must be removed within the following semester or the next semester in which the student is in residence, and the grade of I becomes a failure unless special permission is granted by the appropriate Committee on Academic Standards to postpone removal.

For teacher certification the student is responsible for every registration in a course for which a grade of A, B, C, D, F, WU, P, or I is received.

D/F Repeat Policy

If an undergraduate student earns a grade of D or F in any course at WVU taken no later than the semester or summer session registration when a cumulative total of 60 hours has been attempted, and if this course is repeated in residence at WVU, one time only, the original grade shall be disregarded for the purpose of determining the student's grade-point average, hours passed and hours attempted, and the grade earned when the course is repeated shall be used in determining the student's grade-point average, hours passed and

hours attempted. The first grade recorded shall not be deleted from the student's record and the second grade will be entered marked repeat, in the semester when taken. The repeat may be completed at any time prior to the receipt of a baccalaureate degree. (*Effective Date: December 1985.*)

The grade of F given in a course for disciplinary reasons or for cheating is not eligible to be deleted under the above D/F repeat rule. Such a grade will be indicated on the student's transcript by an *F and will be calculated in the grade-point average.

Grade Reports

In the seventh week of classes of each semester, instructors in all undergraduate courses shall submit a report of students doing unsatisfactory work; that is, earning grades of D or F. These grades are used for counseling and are not recorded on the student's permanent record in the Office of Admissions and Records. These reports are sent to the Office of Admissions and Records and this information is transmitted to the student, adviser, and dean of the college or school.

Final grades are reported by instructors directly to the Office of Admissions and Records within 48 hours after the closing of the examination. The rule also applies to the final grades of all students registered in other colleges and schools of WVU who are enrolled in law courses

The final standing of all seniors provisionally approved for graduation at the close of the second semester shall be reported by their instructors to the deans of their colleges and schools, and the final standing of all graduate students provisionally approved for graduation shall be reported to the Assistant Vice President for Curriculum and Instruction. Special report cards are supplied by the Office of Admissions and Records.

A report of each student's work is made at the close of the semester or summer session to the student.

Transcripts of Academic Record

Every student is entitled to one free official transcript of his or her record. Each additional copy costs \$3 in cash or money order. Two or three weeks may be required to process an application for a transcript at the close of a semester or summer session. At other times the service is approximately 48 hours from receipt of the request.

Students who default in the payment of any university financial obligation forfeit their right to claim a transcript.

An application for a transcript of credit earned must furnish the date of last attendance at WVU and student identification number. A married woman should give both her maiden and married name.

All requests for transcripts must be sent directly to the Office of Admissions and Records.

Transcripts are prepared in the order received.

Transcript requests must be in writing; no phone requests are accepted.

Final Grade Appeals

Students have the right to appeal final course grades which they believe reflect a capricious, arbitrary, or prejudiced academic evaluation, or reflect discrimination based on race, color, creed, sex, or national origin. The grade appealed shall remain in effect until the appeal procedure is completed, or the

problem resolved. The primary intent of this procedure is to provide a mechanism whereby a student might appeal a failing grade or a grade low enough to cause the student to be eliminated from some program or to require the repeat of a course. Grade appeals that do not meet this classification are not precluded. It is understood that an extension of time in the procedural steps may be granted students if in the professional judgment of the chairperson or the dean such an extension is warranted.

Appeal Procedure

Step 1. The student shall discuss the complaint with the instructor involved prior to the end of the succeeding regular semester, whether enrolled or not. If the two parties are unable to satisfactorily resolve the matter within two weeks, the student shall notify the chairperson of the instructor's department or division (or, if none, the dean). (The chairperson or dean will assume the role of an informal facilitator and assist the student and instructor in their resolution attempts.) If the problem is not resolved, the student may proceed directly to Step 2. If the instructor is not available, or if the nature of the complaint makes discussion with the instructor inappropriate, the student shall proceed directly to Step 2.

Step 2. The student must prepare and sign a document which states the facts constituting the basis for the appeal. Copies of this document shall be given to the instructor and to the instructor's chairperson (or, if none, to the dean). If, within ten working days of receipt of the student's signed document, the chairperson cannot resolve the problem to the satisfaction of the student and instructor involved, the complaint will automatically be forwarded to Step 3.

Step 3. Within one week of receipt of the complaint, the instructor's dean shall make a determination regarding the grade, making any recommendation for a grade change to the instructor involved. If the instructor involved does not act on the dean's recommendation, or if the student is in disagreement with the decision of the dean, the case will be referred to a representative body of the instructor's department or college or school for final resolution. The number and make-up of this body are to be determined by the appropriate dean. In cases of an appeal to this body, the faculty member involved shall receive written notification of the grade challenge which shall include a statement of the facts and evidence to be presented by the student in support of the charges made with sufficient clarity to reasonably disclose the claim for a grade change. The faculty member involved and the student making the appeal shall receive written notification that a hearing will be held before the department or college or school committee together with the notice of the date, time, and place of the hearing. The final decision of this body shall be forwarded to the instructor involved. If the decision requires a change of grade, the instructor shall take action in accordance with the committee's decision. If the instructor does not act within five days, the dean will make the necessary grade adjustment. Implementation of this decision shall end the appeal procedure.

Absences

Students who are absent from class for any reason are responsible for work missed and should understand that absences may jeopardize their grades or continuance in the course.

Instructors are responsible for keeping an accurate record of students enrolled and for recording attendance. Instructors who use attendance

records in the determination of grades will announce this fact to students in writing within the first five class meetings.

Withdrawals

Withdrawal From Classes

Deadlines: Until the Friday of the tenth week of class (or Friday of the fourth week in a six-week summer session, or Friday of the second week of a three-week summer session), students may withdraw from individual courses. Deadlines will be published in the *University Schedule of Courses* each semester.

Procedures:

1. Before withdrawing from individual classes, students are responsible for consulting their advisers to determine:

(a) Whether their course loads would be reduced below the minimum requirements set by their colleges or schools (if so, permission of the Committee on Academic Standards of the respective college or school is required *before* the course adjustment form may be submitted); or

(b) Whether their course loads would be reduced below the minimum number of hours required to qualify for special status, e.g., financial aid, varsity athletic competition, or international full-time student status; or

(c) Whether the courses to be dropped are required to fulfill academic probationary conditions; *and/or*

(d) Whether the courses from which they desire to withdraw might be

(1) Corequisite with other courses they are taking; or

(2) Prerequisite to other courses required for the next term.

2. Students must obtain adviser signatures on the University course adjustment forms and then submit the forms to the Office of Admissions and Records.

3. Students who withdraw from courses following all the established University procedures before the published deadline will receive a W on the transcript for the appropriate courses. Grade-point averages are not affected in any way by this mark.

Withdrawal From the University

Deadlines: Students may withdraw from the University *any time before the last day on which regular classes are scheduled to meet*. Students who withdraw from the University before the Friday of the tenth week of classes (or the Friday of the fourth week in a six-week summer session, or the Friday of the second week of a three-week summer session) will receive grades of W in all their courses for that semester or session. Students who withdraw after these deadlines will receive grades of W in those courses in which satisfactory progress had been made; they will receive grades of WU for courses in which progress had been unsatisfactory.

Procedures:

1. Students who decide to leave WVU should withdraw from all classes and must do so in accordance with established University policy. Students are responsible for all *financial obligations* and for following established procedures, including the completion of forms and the delivery of the completed forms to appropriate officials. Students not fulfilling these financial obligations may have difficulty withdrawing from the University. The withdrawal becomes official only after the forms have been recorded by the Director of Admissions and Records.

2. Students who are unable to withdraw in person because of illness, accident, or other valid reasons, still must send to the Office of Student Life notification of their intention to withdraw. The notice should be verified in writing and the student ID and PRT cards enclosed.

3. Students who desire to withdraw from WVU must obtain a withdrawal form from the Student Affairs office (or dean's office of an off-campus instructional unit). Withdrawal procedure will be explained at that time. Identification (ID) and PRT cards must be presented.

4. With the help of their academic advisers, students are responsible for determining how withdrawal from the University may affect their future status with the University, including such aspects as suspension for failure to make progress toward a degree or violation of established academic probation and eligibility for scholarships, fellowships, or financial aid.

Re-Enrollment After Withdrawal

An undergraduate student who withdraws from WVU in two consecutive semesters (excluding summer sessions) may not register for further work without approval of the dean of the college or school in which the student wishes to register and subject to conditions set by that dean.

Committee on Academic Standards

The Committee on Academic Standards of each college or school shall have authority to proceed according to its best judgment in regard to students referred to it for consideration.

All orders of the committee shall become effective when approved by the dean of the college or school.

In exercising its authority the committee shall not suspend a student during a semester except for willful neglect and in cases where the student's class grades are so low that further class attendance would be a waste of time. No suspension shall become effective until approved by the dean of the college or school.

Probation, Suspension, Readmission, Expulsion Policy

Uniform Probation

Any undergraduate student whose cumulative average is 2.0 or higher is in good academic standing in the University. Every baccalaureate degree requires a minimum grade-point average of 2.0 for graduation.

Students whose cumulative grade-point average is below 2.0 will be notified on semester grade reports that their academic performance is unsatisfactory and that they are on probation.

Nothing in this statement prevents a unit from requiring a grade-point average above 2.0 or other academic requirements for purposes of determining probation or meeting degree requirements.

Uniform Academic Suspension Regulations

The student whose cumulative grade-point deficiency exceeds the "allowable grade-point deficiency" (see Table) is subject to suspension *at any time*. Normally, students are suspended at the end of a semester or summer school session. Deans have the authority to waive suspension in favor of probation if in their judgment the circumstances of individual cases so

Maximum Allowable Grade-Point Deficiency*

Total Hours Attempted**	Maximum Grade-Point Deficiency**	Total Hours Attempted**	Maximum Grade-Point Deficiency**
0-19	20	55-59	12
20-24	19	60-64	11
25-29	18	65-69	10
30-34	17	70-74	9
35-39	16	75-79	8
40-44	15	80-84	7
45-49	14	85 or more	6
50-54	13		

*The grade-point deficiency is the difference between the number of grade points needed for a 2.0 average and the number of grade points that a student has actually earned in all courses attempted.

**Includes all hours attempted in institutions in the West Virginia System of Higher Education, excluding grades of P exclusive of the D-F Repeat Policy.

warrant. The suspension rule will be set aside only under extraordinary conditions.

Academic suspension identifies the status of a student who has failed to meet the University minimum standards and who has been notified formally by the dean of the college or school of academic suspension. Suspension from the University means that a student will not be permitted to register for any classes, including those in summer sessions, offered by the University for academic credit until the student has been officially reinstated. The normal period of suspension is a minimum of one academic semester but will not exceed one calendar year from the date of suspension.

A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at West Virginia University upon readmission to the University. After one semester of satisfactory performance (C average or better on a minimum of 12 credit hours earned during a regular semester or during the summer sessions) the appropriate transfer credit will be entered into the student's record upon certification by the adviser and dean that the above conditions have been met. A student who has preregistered and is subsequently suspended shall have his/her registration automatically cancelled.

Readmission After Suspension

During the semester immediately following the effective date of suspension, suspended students may petition in writing for readmission. The college or school petitioned shall establish the terms of readmission for successful student petitions.

After one calendar year from the effective date of suspension, any student who has been suspended one time shall, upon written application, be readmitted to the University and to the college or school in which the student was previously enrolled, unless the student petitions for admission to another college or school. The college which readmits the student removes the student's suspension restriction in Admissions and Records and accepts the student.

A suspended student who is readmitted under the provisions above will be placed on academic probation and will be subject to the maximum grade-point deficiency regulations as before, unless the terms of probation agreed to by the student and that college stipulate otherwise. Each college or school shall have the right to establish requirements or performance expectations.

After the second or any subsequent suspension, a student may be readmitted to the University provided that a college or school agrees to readmit the student.

Uniform Academic Expulsion Regulations

Academic expulsion from the University means that a student will not be permitted to register for any classes, including those in summer sessions, offered by the University. Academic expulsion can result from repeated failure to make academic progress and/or to meet probationary terms set forth in writing by the student's college or school.

After five calendar years from the effective date of academic expulsion, any student who has been expelled shall, upon written application, be considered for readmission to the University, with the terms of readmission to be established by the college or school entered by the readmitted student. Failure to meet these terms will result in permanent academic expulsion.

Academic Dishonesty

The academic development of students and the overall integrity of the institution are primary responsibilities of WVU. Academic dishonesty is condemned at all levels of life, indicating an inability to meet and face issues and creating an atmosphere of mistrust, disrespect, and insecurity. In addition, it is essential in an academic community that grades accurately reflect the attainment of the individual student. Faculty, students, and administrators have shared responsibilities in maintaining the academic integrity essential for the University to accomplish its mission.

Responsibilities

Students should act to prevent opportunities for academic dishonesty to occur, and in such a manner to discourage any type of academic dishonesty.

Faculty members are expected to remove opportunities for cheating, whether related to test construction, test confidentiality, test administration, or test grading. This same professional care should be exercised with regard to oral and written reports, laboratory assignments, and grade books.

Deans and department chairpersons are expected to acquaint all faculty with expected professional behavior regarding academic integrity, and to continue to remind them of their responsibility. Deans and department chairpersons shall assist faculty members and students in handling first-offense cheating allegations at the lowest possible level in the University, and with discretion to prevent damage to the reputation of any person who has not been found guilty in the prescribed manner.

Each member of the teaching faculty and all other WVU employees, including but not limited to assistants, proctors, office personnel, custodians, and public safety officers, shall promptly report each known case of academic dishonesty to the appropriate supervisor, department chairperson, or dean of the college or school concerned.

Academic Dishonesty Defined

Academic dishonesty is defined to include any of the following:

1. Plagiarism: Submitting for credit, without appropriate acknowledgment, a report, notebook, speech, outline, theme, thesis, dissertation, or other written, visual, or oral material that has been knowingly obtained or copied in whole or in part from another individual's academic composition, compilation, or other product, or commercially-prepared paper.
2. Cheating and dishonest practices in connection with examinations, papers, and projects, including but not limited to:
 - a. Obtaining help from another student during examinations.
 - b. Knowingly giving help to another student during examinations, taking an examination or doing academic work for another student, or providing one's own work for another student to copy and submit as his/her own.
 - c. The use of notes, books, or any other source of information during examinations, unless authorized by the examiner.
 - d. Obtaining without authorization an examination or any part thereof.
3. Forgery, misrepresentation or fraud:
 - a. Knowingly furnishing false statements in any University academic disciplinary proceeding.
 - b. Forging or altering, or causing to be altered, the record of any grade in a gradebook, office or other educational record.
 - c. Use of University documents or instruments of identification with intent to defraud.
 - d. Presenting false data or intentionally misrepresenting one's records for admission, registration, or withdrawal from the University or from a University course.

Procedure for Handling Academic Dishonesty Cases

1. Procedures for infractions of institutional academic standards, rules, and regulations are published in the *University Catalog* and other written documents and are binding on all students.

2. Procedure for academic dishonesty including: plagiarism; cheating and dishonest practices in connection with examinations, papers and projects; and forgery, misrepresentation and fraud. Charges may be filed by any member of the academic community.

- a. *Step 1.* At the discretion of the student, faculty member, and chairperson of the department, some cases where there is an admission, in writing, of guilt by the student may be satisfactorily resolved at the departmental level. The maximum penalty at Step 1 is an F in the course. Whenever a penalty is administered, the facts of the case shall be reported in writing to the dean of the college or school, and a copy forwarded to the Office of Judicial Programs in Moore Hall for the permanent records. In cases wherein cheating occurs in a college or school other than that in which the student is a degree candidate, the results of the case shall be reported to the dean of the college or school in which the student involved is enrolled.
- b. *Step 2.* When the student denies guilt, or the faculty member or department chairperson feels the penalties available at Step 1 are insufficient for a specific act, the dean of the college or school in

which the course is offered shall be notified in writing of the specifics of the case. The dean shall then implement the following steps:

- (1.) Formal notification to the student of the charges and the nature of the evidence, which if proved would justify action.
 - (2.) Opportunity for the student and witnesses to respond in writing, rebutting the charges.
 - (3.) Opportunity for the student to request that the case be forwarded by the dean to the University Conduct/Appeals Committee (Step 3).
 - (4.) If the student admits guilt in a signed statement to the dean, or is found guilty, the dean shall prescribe the penalty deemed appropriate. The dean shall promptly report thereon in writing to the Office of Judicial Programs. A copy of such report will also be forwarded to the dean of the college or school in which the student is enrolled. The purpose of this copy of the report is to provide information in the event that further discipline or penalty may be deemed warranted by the dean of the college or school in which the student is a degree candidate. These records will be maintained by the dean(s) until the student graduates, at which time the records will be destroyed.
- c. Step 3. The University Conduct/Appeals Committee shall handle cases referred by a dean or requested by a student. The case must be heard using the University Conduct/Appeals Committee guidelines. The University Conduct/Appeals Committee shall present to the accused student and to the person making the accusation written notification of the charges, which shall include at least: (a) a statement that a hearing will be held before the University Conduct/Appeals Committee together with the notice of the date, time and place of the hearing; and (b) a clear statement of the facts and evidence to be presented in support of the charges made. If the University Conduct/Appeals Committee finds the student guilty, it will determine the penalty it deems appropriate under the circumstances and inform the student of its actions. The action taken by the University Conduct/Appeals Committee shall be final.

Criminal Act in Connection With Cheating

If a student admits in writing that he/she has been guilty of academic dishonesty or is found guilty of academic dishonesty by the University Committee, in a case involving what is believed to be a criminal offense—such as theft of an examination or test materials, alteration of records, forgery, breaking or entering buildings, offices, desks, safes, or filing cabinets, damage to property, and other similar misconduct—the academic penalties and discipline as herein prescribed shall be applied. In addition, the facts of the case will be presented to the appropriate prosecuting attorney for further investigation and for such criminal or other action as may be warranted.

Dismissal From an Undergraduate Program

A student may be dismissed from an undergraduate program based on program and/or professional performance standards other than cumulative grade-point average. The reasons for dismissal must be based on *Catalog* or other written documents describing academic performance standards and expectations.

In cases of dismissal from an undergraduate program, the following procedural steps shall be followed:

Step 1. The student shall be counseled by a departmental representative or committee as soon as possible after discovery of a problem.

Step 2. The student shall be counseled a second time after an opportunity to improve if the student's performance has not changed sufficiently.

Step 3. A department or program committee shall formally review the student's status to determine:

- a. Whether the student shall be retained or recommended for dismissal.
- b. Whether counseling or remediation steps shall be required as a condition of retention.

Step 4. A dismissal decision by the dean of the student's school or college may be appealed to the University Conduct/Appeals Committee which will hold a hearing. The student may be advised by a person of his/her choice in the hearing.

Step 5. A decision for dismissal must be reviewed by the appropriate academic Vice President who may confirm or remand the recommendation with specific conditions for the review process.

Step 6. A recommendation for dismissal by the University Conduct/Appeals Committee confirmed by the appropriate academic Vice President may be appealed to the President whose decision is final.

Dismissal From a Graduate Or a Professional Program

Dismissal from a graduate or professional program based on program and/or professional performance standards other than cumulative grade-point average:

1. Reasons must be based on *Catalog* and other written documents describing academic and professional performance standards and expectations.

2. Procedural

Step 1. Counseling by departmental committee or representative as soon as possible after discovery of problem.

Step 2. Second counseling by departmental committee or representative after opportunity to improve if performance is not changed sufficiently.

Step 3. Formal review of student status by department or program committee to determine:

- a. Student retained or recommended for dismissal.
- b. Counseling or remediation steps required as a condition of retention.
- c. Appeals available if dismissal recommended.

Step 4. A dismissal decision by the dean of the student's school or college may be appealed to the University Conduct/Appeals Committee which will hold a hearing using the following procedures:

- a. The student may be advised by a person of his/her choice to assure due process protection not to affect the outcome of the proceedings. The adviser may consult with the student but shall not speak on behalf of the student or participate directly unless granted specific permission by the University Conduct/Appeals Committee.
- b. The formal rules of evidence do not apply.
- c. The administrative procedure is not adversarial in nature.
- d. Witnesses may be presented and examined under oath.

- e. An accurate record of the procedure is to be kept. The student may request a transcript of the proceedings at the student's expense.
- f. An academic appeals committee has the right to counsel in those proceedings in which the student has retained counsel. Such counsel may not speak on behalf of the institution or otherwise participate directly in the proceedings.

Step 5. A decision for dismissal must be reviewed by the appropriate academic Vice President who may confirm or remand the recommendation with specific instructions.

Step 6. Recommendation for dismissal confirmed by the appropriate academic Vice President may be appealed to the President. The decision of the President is final.

WVU Medical Center/Basic Sciences Graduate Programs

Graduate degrees are offered by the School of Dentistry, School of Nursing, School of Pharmacy and the Department of Anatomy, Biochemistry, Microbiology, Pharmacology and Toxicology, Physiology, and Pathology (Medical Technology) in the School of Medicine. Brief guidelines and descriptions of these programs are described in this *Catalog*. For more detailed presentation of graduate programs, as well as the policies and rules governing graduate education, the *Graduate Catalog* should be consulted.

General Policies and Procedures

Medical Center Graduate Council

The Medical Center Graduate Council advises the Vice President for Health Sciences. In this role the Council monitors and administers the graduate studies policies of the health sciences schools located at the Medical Center. The membership of the Council includes: Fred R. Butcher (Chairperson), Charles R. Craig and Irvin S. Snyder, School of Medicine; James Overberger, School of Dentistry; Mary Jane Smith, School of Nursing; Donald Waters, School of Pharmacy, and Darlene Taylor, Secretary of the Council.

Application and Admission

Application

Prospective graduate students are urged to initiate application for admission as early as possible. The first step of a student interested in a degree program should be to ask for information from the department, division, school, or college offering the program desired; the reply to such an inquiry will include instructions for applying to the particular program.

In all cases, application must be made for admission to graduate study on standard forms provided by the WVU Office of Admissions and Records. The completed form is to be returned to the Office of Admissions and Records, and must be accompanied by payment of a nonrefundable special service fee of \$20.00. Applicants must at the same time request the registrar or records office of the college of their baccalaureate degree to send an official transcript directly to the Office of Admissions and Records. If other institutions have been attended in the course of undergraduate or graduate study, transcripts

should be requested from them as well. No one is admitted to graduate study who does not hold a baccalaureate degree.

If the applicant meets the minimum admission requirements of WVU, a copy of the application is forwarded to the faculty of the program of interest. Any graduate degree program is permitted to set admission requirements which go beyond the minimum admission standards of the University. No one can pursue an advanced degree at WVU unless admitted to the appropriate degree program.

Reapplication

When a student graduates or completes the program for which he/she applied, the student must reapply and be readmitted before taking further course work at WVU. This policy assures that the University is informed of the student's objectives and that he/she is assigned an appropriate adviser. Students will be assessed the application fee for each new application.

When eight years have passed since initial course work, a student must reapply. The application fee will be assessed.

Classification of Graduate Students

1. *Regular.* A regular graduate student is a degree-seeking student who meets all the criteria for regular admission to a program of his/her choice. The student must possess a baccalaureate degree from a college or university, must have at least a grade-point average of 2.5 (on a 4.0 scale), have met all the criteria established by the degree program, and be under no requirements to make up deficiencies.

2. *Provisional.* A student may be admitted as provisional by any unit when the student possesses a baccalaureate degree but clearly does not meet the criteria for regular admission. The student may have incomplete credentials, deficiencies to make up, or may have an undergraduate scholastic record which shows promise, but less than the 2.5 grade-point average required for regular admission.

3. *Non-Degree.* A non-degree student is a student not admitted to a program. Admission as a non-degree student does not guarantee admission to any course or program. To be admitted as a non-degree student, a student must only present evidence of a baccalaureate degree, but the student must obtain a 2.25 grade-point average on the first 12 credit hours of course work and maintain this average as long as enrolled. To be eligible to enter a degree program, the student must maintain a minimum of a 2.75 grade-point average on all course work taken since admission as a graduate student.

Reclassification

1. Provisional to Regular

a. The provisions of a student's provisional status must be specified in the letter of admission.

b. To be reclassified as a regular student, a student must meet the provisions stated in the letter of admission and achieve a minimum grade-point average of 2.75 on all course work taken during the provisional period. Individual degree programs may set higher grade-point average requirements.

c. No later than the completion of the 18th credit hour, a unit must review the student's record and make a final decision on the student's admission. A student who has met the provisions of admission and achieved the required grade-point average will be reclassified as a regular student. A student who

fails to meet the provisions of admission or who fails to achieve the required grade-point average will be suspended, but may be reinstated in order to transfer to another program or to non-degree status. The academic unit must notify the student and the Office of Admissions and Records of its decision.

d. Upon notification by the appropriate academic unit, the Office of Admissions and Records will prohibit the registration of all provisional graduate students who have reached the maximum of 18 credit hours. Registration will not be permitted until the student is reclassified as a regular student, an exception is granted by an academic dean, or the student is transferred.

e. A student may be admitted as a provisional graduate student more than one time, but not by the same graduate program.

f. All credit hours taken since admission as a provisional graduate student or to be applied to a degree count in the 18 credit-hour limit, i.e., undergraduate or graduate credit, P/F, S/U, graded courses, credit by senior petition, and transfer credit.

2. Regular or Provisional to Non-Degree

a. Regular and provisional students may become non-degree students by choice. This includes students who fail to meet admission or academic standards or who withdraw voluntarily.

b. To change a student to non-degree status, the adviser must process a Graduate Studies Transfer/Status form through the Medical Center Graduate Programs Office.

3. Non-Degree to Regular or Provisional

a. Non-degree students who later wish to become degree students must transfer and present all the credentials required by the degree program. This requires the processing of a Graduate Studies Transfer/Status form by the student's adviser through the Medical Center Graduate Programs Office.

b. For admission to a degree program, a non-degree student must have achieved a minimum grade-point average of 2.75 on all course work taken since admission as a graduate student.

Graduate Record and Other Examinations

Many programs at WVU require Graduate Record Examination (GRE) scores from all applicants, but in no program are they the sole criterion for admission. Some programs require both the general aptitude and the appropriate advanced test before considering an applicant for admission. All departments in the School of Medicine require that a student take the GRE test. The School of Pharmacy requires a student have the GRE.

Admission of International Students

International students wishing to enroll for graduate work at WVU must comply with the academic requirements for admission which have already been stated and with certain additional academic and nonacademic requirements as follows:

Early Inquiry and Application

International applicants should forward a letter of inquiry one year before the intended time of beginning study in the United States.

English Proficiency

All international applicants, the language of whose family and schooling was other than English, must present a composite score of at least 550 on the "Test of English As a Foreign Language" (TOEFL).

Credentials

See the *WVU Graduate Catalog*.

Intrauniversity Transfers

To transfer from one school/department to another a student may initiate a transfer request by contacting the Medical Center Graduate Programs Office or his/her adviser. The adviser must contact the Medical Center Graduate Programs Office which will complete transfer.

Credit Limitations

General

Credit toward a graduate degree may be obtained only for courses listed in the *Graduate Catalog*, and numbered 200-499, in which the grade earned is A, B, C, or S. No course in which the grade earned is D, P, F, or U can be counted toward a graduate degree.

Employed Graduate Students

Graduate students will be required by their advisers to limit their credit loads in proportion to the outside service rendered and the time available for graduate study. In general, persons in full-time service to the University, or other employer, will be advised to enroll for no more than 6 hours of work in any one semester and those in half-time service for no more than 12 hours. Maximum credit loads may be less for employed graduate students in some academic colleges, schools, and departments.

Non-Degree Graduate Students

A non-degree graduate student may accumulate unlimited graduate credit hours, but if the student is later admitted to a degree program, the faculty of that program will decide whether or not any credit earned as a non-degree student may be applied to the degree. Under no circumstances may a non-degree student apply more than 12 hours of credit toward a degree.

Transfer Credit

A student wishing to apply credit earned at another institution of higher education to a master's degree at WVU must obtain the standardized permission form from their department. This form requires the signature of the student's unit chairperson or designate. The student must also have an official transcript from the other institution sent to the Office of Admissions and Records. Only credit earned at institutions accredited at the graduate level may be transferred.

Graduate courses taken elsewhere will not be approved for transfer credit unless written approval was secured before enrolling in them. At the time the written approval is given, a copy of approval must be sent to the Medical Center Graduate Programs Office.

A maximum of 12 semester hours from other institutions will be accepted for credit at WVU in master's degree programs requiring 30 to 41 semester

hours. Eighteen (18) semester hours will be accepted for master's degree programs requiring 42 or more semester hours. Individual graduate programs may accept fewer credit hours.

Completed permission forms are to be returned to the Medical Center Graduate Programs Office.

Time Limits

Master's Degree

All requirements for a master's degree must be completed within 8 years preceding the student's graduation.

Doctorate

The doctorate is a research or performance degree and does not depend on the accumulation of credit hours. The three requirements of the degree are admission to candidacy, residency, and completion and defense of the dissertation. The degree signifies that the holder has the competence to function independently at the highest level of endeavor in the chosen profession. Hence, the number of years involved in attaining or retaining competency cannot be readily specified. Rather, it is important that the doctoral student's competency be assessed and verified in a reasonable period of time prior to conferral of the degree.

The qualifying examination is the method of assessing whether the student has attained sufficient knowledge of the discipline and supporting fields in order to undertake independent research or practice. It is expected that the examination will occur after all course work has been completed and language or other requirements satisfied, and it consists of a series of examinations covering all areas specified in the plan of study. After the component parts of the qualifying examination have been successfully passed, the student is admitted to candidacy for the degree. It is sometimes called the candidacy examination because no one can be called a doctoral candidate until this first requirement for the degree has been met.

Because the qualifying examination attests to the academic competence of the student who is about to become an independent researcher or practitioner, the examination should not precede the degree by too long a period of time. Consequently, doctoral candidates are allowed no more than 5 years in which to complete remaining degree requirements. In the event a student fails to complete the doctorate within 5 years after admission to candidacy, an extension of time can be obtained only by repeating the qualifying examination, and meeting any other requirements specified by the student's committee.

Contractual Nature of Graduate Study

The student's rights, privileges, obligations, and responsibilities are contained in the *Graduate Catalog*, the plan of study, and, if research is one of the degree program requirements, the prospectus. Although not contracts in the formal legal sense, they are agreements between the University and a student for the accomplishment of planned educational goals.

Plan of Study

Submit within the first academic year (18 hours for a master's and 30 hours for doctorate/after thesis committee for Nursing) to the Medical Center Graduate Programs Office.

The plan of study is subject to approval and is made a part of the student's record. It then becomes a formal agreement between student and program faculty as to the conditions which must be met for completion of the degree requirements. Any subsequent changes in plan of study (or prospectus) can be made only through mutual agreement.

Records in Medical Center Graduate Programs Office

The Medical Center Graduate Programs Office maintains all records for monitoring student progress and for certifying students for graduation. Among these records are: (1) plans of study (subject to chairperson of Medical Center Graduate Council's approval); (2) graduate committees (subject to school dean's or designate's approval and approval of the Medical Center Graduate Programs Office); (3) grades; (4) grade modifications, etc.

Grading

Pass/Fail grading is not applicable to the course work for a graduate degree. A graduate student may register for any course (1-499) on a Pass/Fail basis only if the course involved is not included in the student's plan of study and does not count toward a graduate degree. The selection of a course for Pass/Fail grading must be made at registration and may not be changed after the close of the registration period. A student who, having taken a course on a Pass/Fail basis, later decides to include the course as part of a degree program must re-register for the course on a graded (A, B, C, D, or F) basis.

Incompletes

The grade of I is given when the instructor believes the course work is unavoidably incomplete or that a supplementary examination is justifiable. The grade of I must be removed within one academic year or made a permanent incomplete. Grade modification forms are to be signed by the instructor of the course, and then brought to the Medical Center Graduate Programs Office for processing.

Grade changes other than I to a letter grade must be accompanied by an explanatory memo.

Theses and Dissertations

Procedural Rules

See the *West Virginia University Graduate Catalog*.

Students' Committees

Number of Committee Members

Doctoral dissertation committees will consist of no fewer than five members, the majority of which will be regular graduate faculty including the chairperson. No more than one person may be a non-member.

Master's committees of programs requiring a thesis will consist of no fewer than three members, the majority of which will be regular graduate faculty including the chairperson. No more than one person may be a non-member.

Master's committees of programs not requiring a thesis will consist of no fewer than three members, one of which must be a regular graduate faculty member. No more than one person may be a non-member, and the non-member cannot chair or advise.

Committee approval must be obtained prior to the second semester for a master's degree and prior to the fourth semester for the doctorate. Committee approval for the nursing program is after the third semester.

Committee approval forms are submitted to the Medical Center Graduate Programs Office.

Committee Approval

All graduate committees are subject to the approval of the school dean or designate and the Medical Center Graduate Programs Office.

Fees and Expenses

Fee Regulations

All West Virginia University fees are subject to change without notice.

All fees are due and payable to the Controller on the days of registration. Students must pay fees before registration is accepted. Completion of arrangements with the Controller's Office for payment from officially accepted scholarships, loan funds, grants, or contracts shall be considered sufficient for acceptance of registration. Fees paid after regular registration must be paid to the University Cashier in Mountainlair.

All students are expected to register on days set apart for registration at the beginning of each semester or summer session of the University.

No student will be permitted to register at the University after the eighth day of a semester or the fourth calendar day of the summer sessions or a single summer session. Days are counted from the first day of registration.

Any student failing to complete registration on regular registration days is subject to the Late Registration Fee of \$20.00.

Students registering pay the fees shown in the fees charts, plus special fees and deposits as required.

No degree will be conferred upon any candidate and no transcripts will be issued to any student before payment is made of all tuition, fees, and other indebtedness to any unit of the University.

It is the policy of West Virginia University to place on restriction students who have outstanding debts to a unit or units of the University. The restriction may include but is not limited to the withholding of a student's registration, a student's diploma, or a student's transcript.

Financial Aid

Students interested in financial assistance must file a Financial Aid Form (FAF) with College Scholarship Service, Box 2700, Princeton, NJ 08540. Forms are available at high schools or from the College Scholarship Service or the WVU Financial Aid Office. Submit only forms dated for the current academic year.

Your Guide to Financial Aid—West Virginia University is available at the WVU Financial Aid Offices, Mountainlair, Downtown Campus, and 104 Basic Sciences Building, Medical Center. The guide describes available financial aid, application procedures, and estimated educational expenses for attending WVU.

Estimated Expenses For Medical Center Programs (First Semester) [Subject to Change]

Tuition and registration are the same for both semesters. Some expenses, such as instruments and books, will be different for the Second Semester.

School or Division	Tuition and Registration Fees		Instruments	Lab Coats, Uniforms etc.	Books	Total	
	Resident	Nonresident				Resident	Nonresident
Dental Hygiene							
Freshman	\$ 630.00	\$1,820.00	\$ 130.00	\$ 17.00	\$200.00	\$ 977.00	\$1,967.00
Sophomore	630.00	1,620.00	850.00	200.00	200.00	1,880.00	2,870.00
Junior	630.00	1,620.00	275.00	120.00	230.00	1,255.00	2,245.00
Senior	630.00	1,620.00	50.00	100.00	75.00	855.00	1,845.00
Dentistry							
First Year	1,095.00	2,445.00	2,640.00	88.00	600.00	4,423.00	5,773.00
Second Year	1,095.00	2,445.00	501.00	110.00	167.00	1,873.00	3,223.00
Third Year	1,095.00	2,445.00	_____	_____	70.00	1,165.00	2,515.00
Fourth Year	1,095.00	2,445.00	_____	_____	_____	1,095.00	2,445.00
Medical Technology							
Junior	630.00	1,620.00	95.00	85.00	400.00	1,210.00	2,200.00
Summer	156.00	405.00	_____	250.00	250.00	656.00	905.00
Senior	630.00	1,620.00	_____	195.00	_____	825.00	1,815.00
Medicine							
First Year	1,445.00	2,895.00	_____	56.00	300.00	1,801.00	3,251.00
Second Year	1,445.00	2,895.00	491.00	56.00	250.00	2,242.00	3,692.00
Third Year	1,445.00	2,895.00	_____	33.00	220.00	1,698.00	3,148.00
Fourth Year	1,445.00	2,895.00	_____	33.00	150.00	1,628.00	3,078.00
Nursing							
Sophomore	630.00	1,620.00	40.00	130.00	400.00	1,200.00	2,190.00
Summer	249.00	749.00	_____	_____	60.00	309.00	809.00
Junior	630.00	1,620.00	_____	_____	100.00	730.00	1,720.00
Senior	630.00	1,620.00	_____	_____	110.00	740.00	1,730.00
Pharmacy							
Third Year	630.00	1,620.00	_____	30.00	295.00	955.00	1,945.00
Fourth Year	630.00	1,620.00	_____	_____	210.00	840.00	1,830.00
Summer	311.00	875.00	_____	_____	_____	311.00	975.00
Fifth Year	630.00	1,620.00	_____	30.00	25.00	685.00	1,675.00
Physical Therapy							
Junior	630.00	1,620.00	60.00	90.00	300.00	1,080.00	2,070.00
Senior	630.00	1,620.00	_____	70.00	335.00	1,035.00	2,025.00
Summer	249.00	747.00	_____	_____	_____	249.00	747.00

TUITION & REGISTRATION FEES BREAKDOWN		Tuition	Registration	Higher Education Resources	Institutional Activity	Mountain/air Construction	Faculty Improvement	Total
Dent. Hyg., Med. Tech., Nsg., Pharm.,	Resident	\$165.00	\$ 50.00	\$ 195.00	\$165.00	\$40.00	\$15.00	\$ 630.00
Phys. Ther (Full-time: 12 hr. or more)	Nonresident	535.00	250.00	580.00	165.00	40.00	50.00	1,620.00
	Resident	195.00	50.00	195.00	165.00	40.00	15.00	660.00
Graduate (Full-time: 9 hr. or more)	Nonresident	635.00	250.00	580.00	165.00	40.00	50.00	1,720.00
	Resident	335.00	50.00	490.00	165.00	40.00	15.00	1,095.00
Dentistry (Full-time: 9 hr. or more)	Nonresident	835.00	250.00	1,105.00	165.00	40.00	50.00	2,445.00
	Resident	300.00	50.00	475.00	165.00	40.00	15.00	1,445.00*
Medicine (Full-time: 9 hr. or more)	Nonresident	800.00	250.00	1,090.00	165.00	40.00	50.00	2,895.00**

TUITION PER SEMESTER HOUR—PART-TIME & SUMMER (Under 9 hr.)		Resident	Nonresident
Dental Hygiene, Medical Technology, Nursing, Pharmacy, and Physical Therapy		\$35.00—Per Credit Hour—\$118.00—plus Special Fees	
Graduate		51.00—Per Credit Hour—	170.00—plus Special Fees
Dentistry		99.00—Per Credit Hour—	250.00—plus Special Fees
Medicine**		93.00—Per Credit Hour—	244.00—plus Special Fees

SEMESTER: \$45.00—SPECIAL FEES—SUMMER: \$17.00 under 6 hr. — \$63.00 6 hr. or more each session

*Includes \$400 Resident Medical Education Fee.
 **Includes \$500 Nonresident Medical Education Fee.
 ***Plus Medical Education Fee prorated

Classification of Students (Full-Time and Part-Time)

A *full-time graduate student* is one who is registered for 9 or more semester hours of work each semester of the regular academic year, or 6 or more semester hours of work altogether during the summer.

A *full-time undergraduate student* is one who is registered for 12 or more semester hours of work each semester of the regular academic year, or 6 or more semester hours of work during a 6-week summer session.

For fee assessment purposes, a *part-time graduate student* is one who is registered for fewer than 9 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

A *part-time undergraduate student* is one who is registered for fewer than 12 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

It should be recognized that unique curriculum requirements in several of the Medical Center programs may require student involvement in summer clinical clerkships prior to official enrollment for the following semester's work.

Fees for Off-Campus Courses

Fees for credit hours for off-campus students are the same as those charged students enrolled in on-campus courses. Off-campus students do not pay the Daily Athenaeum Fee, the Radio Station Fee, or the Mountainlair Construction Fee. However, all students must pay a \$40.00 course fee for each off-campus course taken.

Laboratory Fees

Consult specific departmental sections of this *Catalog* concerning nonrefundable deposits and microscope rental fee.

Service Charge on Returned Checks

A service charge of \$10.00 shall be collected on each check returned unpaid by the bank upon which it is drawn.

If the check returned by the bank was in payment of University and registration fees, the Controller's Office shall declare the fees unpaid and registration cancelled if the check has not been redeemed within three days from date of written notice. In such a case the student may be reinstated upon redemption of the check, payment of the \$10.00 service charge, the Reinstatement Fee of \$10.00, and the Late Registration Fee of \$20.00.

Non-Sufficient Funds Check Policy

Payments of tuition, fees, and other charges by check are subject to WVU's Non-Sufficient Funds Check Policy. A copy of this policy is available in the Bursar's Office.

Special Fees

Application for Undergraduate Admission (Freshman, Transfer, and Foreign Students)	\$10.00
Application for Admission (Medicine and Dentistry)	30.00
Application for Admission (College of Law and Graduate Studies)	20.00
Certificate of Advanced Study in Education	2.00
Diploma Replacement	20.00
Examination for Advanced Standing	35.00
Examination for Entrance Credit, per unit	1.00
Non-Enrolled Graduate Student Evaluation Fee	50.00
(For graduate students not otherwise enrolled at time of final examination.)	
General Educational Development Tests (high school level)	15.00
(If the applicant applies for admission to and registers in WVU within twelve months of the date of qualifying for the test, a \$10.00 credit shall be established for the applicant.)	
Gaduation	20.00
(Payable by all students at the beginning of the semester or session in which they expect to receive their degrees.)	
Late Registration (nonrefundable)	20.00
(Not charged to students who complete registration during the regular registration days as set forth in the University Calendar.)	
Program Reactivation Fee (Graduate Students)	20.00
Reinstatement of Student Dropped from the Rolls	10.00
Student Identification Card Replacement	10.00
Student's Record Fee	3.00
(One transcript of a student's record is furnished by the Office of Admissions and Records without charge. This fee is charged for furnishing an additional transcript.)	

Summer Tuition and Fees

Tuition, per semester hour	Resident	Nonresident
Undergraduate Students	\$35.00	\$118.00
Graduate Students	51.00	170.00
Dentistry Students	99.00	250.00
Medicine Students	93.00	244.00
Daily Athenaeum Fee*	1.00	1.00
Radio Station Fee*	1.00	1.00
Health, Counseling, and Program Services Fee	21.00	21.00
Mountainlair Construction Fee, per 6-week summer session or any portion thereof*	15.00	15.00
Student Affairs Fee	8.00	8.00
Transportation Fee	17.00	17.00

*Fee required of all students. (Nonrefundable unless student withdraws officially before the close of general registration.)

Refund of Fees

A student who officially withdraws from University courses may arrange for a refund of fees by submitting to the University Controller evidence of eligibility for a refund during the semester.

To withdraw officially, a student must apply to the Division of Student Affairs for permission. Semester fees will be returned in accordance with the following schedule:

<i>Academic Year (Semester)</i>	<i>Refund</i>
During the first and second weeks	90%
During the third and fourth weeks	70%
During the fifth and sixth weeks	50%
Beginning with the seventh week	No Refund

Summer Sessions and Non-Traditional Periods

Refunds for summer sessions and non-traditional periods are established based upon the refund rate for the academic year. (For specific information concerning Summer Session refunds, see the appropriate Summer Schedule of Courses.) Should the percentage calculation identify a partial day, the entire day will be included in the higher refund period.

No part of the Activity Fee is refundable unless the student withdraws from the University.

University policy provides that students called to the armed services of the United States may be granted full refund of refundable fees, but no credit, if the call comes before the end of the first three-fourths of the semester, and that the full credit of courses be granted to persons called to the armed services of the United States if the call comes thereafter; provided, however, that credit as described above will be granted only in those courses in which the student is maintaining a passing mark at the time of departure for military service. In the recording of final grades, for three-fourths of a semester or more, both passing and failing grades are to be shown on the student's permanent record.

Identification Card

An identification card is issued to each full-time student upon paying full fees. It entitles the owner admission to certain University athletic events, various activities of student administration, Health Service, and Mountainlair. Confiscation will result from misuse. The University reserves the right to refuse reissuance of an identification card.

Policy Regarding Residency Classification
Of Students for Admission and Fee Purposes

Section 1. Classification for Admission and Fee Purposes

1.1 Students enrolling in a West Virginia public institution of higher education shall be assigned a residency status for admission, tuition, and fee purposes by the institutional officer designated by the President. In determining residency classification, the issue is essentially one of domicile. In general, the domicile of a person is that person's true, fixed, permanent home and place of habitation. The decision shall be based upon information furnished by the student and all other relevant information. The designated officer is authorized to require such written documents, affidavits, verifica-

tions, or other evidence as is deemed necessary to establish the domicile of a student. The burden of establishing domicile for admission, tuition, and fee purposes is upon the student.

1.2 If there is a question as to domicile, the matter must be brought to the attention of the designated officer at least two weeks prior to the deadline for the payment of tuition and fees. Any student found to have made a false or misleading statement concerning domicile shall be subject to institutional disciplinary action and will be charged the nonresident fees for each academic term theretofore attended.

1.3 The previous determination of a student's domiciliary status by one institution is not conclusive or binding when subsequently considered by another institution; however, assuming no change of facts, the prior judgment should be given strong consideration in the interest of consistency. Out-of-state students being assessed resident tuition and fees as a result of a reciprocity agreement may not transfer said reciprocity status to another public institution in West Virginia.

Section 2. Residence Determined by Domicile

2.1 Domicile within the State means adoption of the State as the fixed permanent home and involves personal presence within the State with no intent on the part of the applicant or, in the case of a dependent student, the applicant's parent(s) to return to another state or country. Residing with relatives (other than parent(s)/guardian) does not, in and of itself, cause the student to attain domicile in this State for admission or fee payment purposes. West Virginia domicile may be established upon the completion of at least twelve months of continued presence within the State prior to the date of registration, provided that such twelve months' presence is not primarily for the purpose of attendance at any institution of higher education in West Virginia. Establishment of West Virginia domicile with less than twelve months' presence prior to the date of registration must be supported by evidence of positive and unequivocal action. In determining domicile, institutional officials should give consideration to such factors as the ownership or lease of a permanently occupied home in West Virginia, full-time employment within the State, paying West Virginia property tax, filing West Virginia income tax returns, registering of motor vehicles in West Virginia, possessing a valid West Virginia driver's license, and marriage to a person already domiciled in West Virginia. Proof of a number of these actions shall be considered only as evidence which may be used in determining whether or not a domicile has been established. Factors militating against the establishment of West Virginia domicile might include such considerations as the student not being self-supporting, being claimed as a dependent on federal or state income tax returns or the parents' health insurance policy if the parents reside out of state, receiving financial assistance from state student aid programs in other states, and leaving the State when school is not in session.

Section 3. Dependency Status

3.1 A dependent student is one who is listed as a dependent on the federal or state income tax return of his/her parent(s) or legal guardian or who receives major financial support from that person. Such a student maintains the same domicile as that of the parent(s) or legal guardian. In the event the parents are divorced or legally separated, the dependent student takes the domicile of the parent with whom he/she lives or to whom he/she has been

assigned by court order. However, a dependent student who enrolls and is properly classified as an in-state student maintains that classification as long as the enrollment is continuous and that student does not attain independence and establish domicile in another state.

3.2 A nonresident student who becomes independent while a student at an institution of higher education in West Virginia does not, by reason of such independence alone, attain domicile in this State for admission or fee payment purposes.

Section 4. Change of Residence

4.1 A person who has been classified as an out-of-state student and who seeks resident status in West Virginia must assume the burden of providing conclusive evidence that he/she has established domicile in West Virginia with the intention of making the permanent home in this State. The intent to remain indefinitely in West Virginia is evidence not only by a person's statements, but also by that person's actions. In making a determination regarding a request for change in residency status, the designated institutional officer shall consider those actions referenced in Section 2 above. The change in classification, if deemed to be warranted, shall be effective for the academic term or semester next following the date of the application for reclassification.

Section 5. Military

5.1 An individual who is on full-time active military service in another state or foreign country or an employee of the federal government shall be classified as an in-state student for the purpose of payment of tuition and fees, provided that the person established a domicile in West Virginia prior to entrance into federal service, entered the federal service from West Virginia, and has at no time while in federal service claimed or established a domicile in another state. Sworn statements attesting to these conditions may be required. The spouse and dependent children of such individuals shall also be classified as in-state students for tuition and fee purposes.

5.2 Persons assigned to full-time active military service in West Virginia and residing in the State shall be classified as in-state students for tuition and fee purposes. The spouse and dependent children of such individuals shall also be classified as in-state students for tuition and fee purposes.

Section 6. Aliens

6.1 An alien who is in the United States on a resident visa or who has filed a petition for naturalization in the naturalization court, and who has established a bona fide domicile in West Virginia as defined in Section 2 may be eligible for in-state residency classification, provided that person is in the State for purposes other than to attempt to qualify for residency status as a student. Political refugees admitted into the United States for an indefinite period of time and without restriction on the maintenance of a foreign domicile may be eligible for an in-state classification as defined in Section 2. Any person holding a student or other temporary visa cannot be classified as an in-state student.

Section 7. Former Domicile

7.1 A person who was formerly domiciled in the state of West Virginia and who would have been eligible for an in-state residency classification at the time of his/her departure from the state may be immediately eligible for

classification as a West Virginia resident provided such person returns to West Virginia within a one year period of time and satisfies the conditions of Section 2 regarding proof of domicile and intent to remain permanently in West Virginia.

Section 8. Appeal Process

8.1 The decisions of the designated institutional officer charged with the determination of residency classification may be appealed to the President of the institution. The President may establish such committees and procedures as are determined to be appropriate for the processing of appeals. The decision of the President of the institution may be appealed in writing with supporting documentation to the West Virginia Board of Regents in accord with such procedures as may be prescribed from time to time by the Board.

Medical Center Basic Sciences— Programs and Courses of Instruction

The Departments of Anatomy, Biochemistry, Microbiology, Pharmacology and Toxicology, and Physiology offer individual graduate programs leading to the M.S. and Ph.D. degrees and provide courses for students of medicine, dentistry, pharmacy, nursing, and other allied health professions.

(Detailed information concerning graduate studies academic information is presented in the *WVU Graduate Catalog*.)

Anatomy

The Department of Anatomy offers graduate programs which are committed to the training of competent researchers and capable teachers. This is accomplished by the completion of a carefully designed plan of study tailored to the individual student's interests. The program begins with instruction in basic morphological, developmental, and functional aspects of human anatomy. Additional related course work and electives are required. These selected courses strengthen the area of interest of the student. The student then conducts an original research project which culminates in a dissertation (Ph.D.) or a thesis (M.S.).

Admission Requirements

In addition to the admission procedure of the University, the Department of Anatomy requests that each applicant complete a departmental application form obtained from the department. After an application is favorably reviewed by the departmental Graduate Studies Committee, applicants are invited for a personal interview whenever practical. The applicant is admitted by a majority vote of the departmental Graduate Faculty.

It is recommended that the following courses be completed before entering the graduate program: algebra, trigonometry, general physics, inorganic and organic chemistry, general biology or zoology, comparative anatomy, embryology, genetics, cell biology or general physiology, and two years of French, German, or Russian. At the discretion of the department, a student may be allowed to complete a limited number of prerequisites after enrolling in the program. A grade-point average above 3.0 is desirable. The

aptitude portion and an advanced section of the Graduate Record Examination are generally required. Also, three letters of recommendation from persons who can best evaluate the applicant's potential for graduate study should either accompany the application or be mailed to the Department of Anatomy separately. Applicants desiring consideration for financial aid should complete the application process before January 15.

Doctor of Philosophy

The first year of study usually consists of required course work within the Department of Anatomy. These courses include gross anatomy, micro-anatomy, neurobiology, introduction to research, and seminar in anatomy. Required courses in other basic medical sciences, such as biochemistry and physiology, are usually taken in the second year. Twelve hours of additional graduate-level courses are also required. These requirements will have been satisfied when the student earns a grade of at least B in each of the courses taken in the Department of Anatomy and has maintained a required 2.75 overall grade-point average.

To be admitted to candidacy for the Ph.D. degree the student must satisfy the above requirements, pass a written and oral comprehensive preliminary examination, and prepare a plan for a research project to be undertaken for the dissertation. To be recommended for the Ph.D. degree each student must complete a dissertation based on original research and defend the dissertation at an oral examination.

This program allows flexibility for each student. The precise plan of study is designed by the student and an Advisory Committee, which is composed of faculty members selected by the student.

The student often culminates the training period with presentations at regional and/or national scientific meetings.

Master of Science

The master's program in anatomy is offered as a terminal degree only for students in certain specialized fields, such as physical therapy or in a conjoint program in dentistry or medicine. It is not necessary for the student to complete the M.S. degree in order to qualify for admission into the Ph.D. program, although the student may elect to complete the requirements for this degree in progress toward the Ph.D.

An applicant who shows a special need for the M.S. degree must generally be as well qualified as applicants for the doctoral program. The M.S. student must complete courses in gross anatomy and microanatomy and 6 to 9 hours of required and elective courses. A 2.75 grade-point average must be maintained. In addition to course work, the student must complete a thesis based on original research and defend the thesis at an oral comprehensive examination.

Research and Instruction

Research Areas—Gross Anatomy: Anatomical variations and anomalies, and electromyographic studies of specific muscle groups. Microscopic Anatomy: Studies of cells, tissues, and organs, under normal and experimental conditions with *in vivo* microscopic, histochemical, electron microscopic, autoradiographic, and fluorescent techniques. Developmental Anatomy: Experimental and descriptive embryology, cellular differentiation, and dedifferentiation, regeneration and the effects of drugs and other environmental

agents on development. Neuroanatomy: Experimental, comparative, and embryological studies of specific nerve cell groups and nerve pathways in the spinal cord, brain stem, cerebellum, and cerebrum.

Anatomy (Anat.)

101. *Principles of Human Anatomy*. (For paramedical students only.) I. 3-4 hr. PR: Biol. 2 or equiv.; consent of instructor or chairperson. Lectures and demonstrations on the gross and microscopic anatomy of the human body including development.
102. *Gross Anatomy*. (For physical therapy students.) II. 3 hr. PR: Anat. 101 and/or consent of instructor or chairperson. Functional gross anatomy of the back, extremities, head, and neck.
109. *Oral Histology*. (For dental hygiene students.) II. 3 hr. PR: Consent of instructor or chairperson. Histological structure and embryological development of the teeth, tissues, and organs of the oral cavity.
152. *Introduction to Physical Anthropology*. II. 3 hr. PR: Consent of instructor or chairperson. Man's physical heritage (human evolution) in principle and through paleontology, man's current physical nature (race and ecology), and biologic basis of man's culture. (Same as *Sociology and Anthropology* 152.)
301. *Gross and Developmental Anatomy: Trunk*. (For medical and a limited number of regular full-time graduate students in the medical basic sciences.) I. 5 hr. PR: Medical student standing or consent of chairperson. Gross anatomical study of the back, thorax, abdomen, pelvis, and perineum emphasizing clinically-related concepts.
302. *Gross and Developmental Anatomy: Head-Neck*. (For medical and a limited number of regular full-time graduate students in the medical basic sciences.) I. 3 hr. PR: Medical student standing or consent of chairperson. Gross anatomical study of the head and neck emphasizing clinically-related concepts.
304. *Gross and Developmental Anatomy: Extremities*. (For medical students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 2 hr. PR: Medical student standing or consent of chairperson. Gross anatomical and developmental study of the upper and lower limbs emphasizing clinically-related concepts.
305. *Microanatomy*. (For medical students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 5 hr. PR: Medical student standing or consent of chairperson. Cells, tissues, and organs.
306. *Gross Anatomy of the Trunk and Extremities*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 4 hr. PR: Dental student standing or consent of instructor or chairperson. Gross anatomical study of the back, upper extremities, thorax, abdomen, and pelvis.
307. *Gross Anatomy of the Head and Neck and Neuroanatomy*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 5 hr. PR: Dental student standing or consent of instructor or chairperson. Gross anatomical study of the head and neck and a brief gross and microscopic anatomical study of the central nervous system.
308. *Neuroanatomy*. (For students in physical therapy and a limited number of regular full-time graduate students in the medical basic sciences, and students in other health sciences.) II. 2 hr. PR: Consent of instructor or chairperson. Gross and microscopic structure of the central nervous system.
309. *Microanatomy and Organology*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 5 hr. PR: Dental student standing or consent of chairperson. Cells, tissues, and organs.

312. *Special Topics in Anatomy*. I, II. 2-4 hr. per sem. PR: Anat. 301 or 306; and Anat. 305 or 309; consent of chairperson. Different topics of current interest in anatomy that are not included in the regular graduate courses.
314. *Applied Anatomy*. I, II. 2-6 hr. per sem. PR: Consent of instructor or chairperson. Detailed study of anatomy adapted to the needs of the individual student.
316. *Craniofacial Growth and Maturation*. I. 3 hr. PR: Anat. 315 or consent of instructor. The current concepts of craniofacial growth and maturation are presented and integrated for application to clinical problems.
318. *Oral Histology and Embryology*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 2 hr. PR: Dental student standing or consent of instructor or chairperson. Structure, function, and development of oral tissues.
319. *Advanced Head and Neck Anatomy*. 1 hr. PR: Dental, medical, or graduate student in basic sciences, or consent. Head and neck craniofacial anatomy as it applies to specialties in dental or medical practice.
375. *Neurobiology*. (For medical and limited number of regular full-time graduate students in the medical basic sciences.) II. 6 hr. PR: Anat. 301 and Physi. 345, or consent. Anatomy and physiology of the nervous system correlated with clinical neurology. (See also CC MD 375—Neurobiology.)
401. *Advanced Gross Anatomy*. I, II. 2-6 hr. per sem. PR: Anat. 301, 302, 304, or 306, 307 and consent of instructor or chairperson. Morphological and functional analysis of a selected region, with dissection.
402. *Advanced Developmental Anatomy*. II. 2-4 hr. per sem. PR: Anat. 301, 302, 304, and consent of instructor or chairperson. Detailed developmental anatomy of the fetal period and infancy. With dissections and analysis of variations and malformations.
403. *Seminar*. I, II. 1-6 hr. (1 hr. per sem.) (Course may be repeated.) PR: Consent of Graduate Committee. Special topics of current or historical interest.
405. *Experimental Embryology*. II. (Alternate Years.) 3 hr. PR: Embryology and cellular physiology or biochemistry and consent of instructor or chairperson. Development, differentiation, and regeneration.
406. *Advanced Neuroanatomy*. I. 2-4 hr. per sem. (Course may be repeated.) PR: CC MD 375 and consent of instructor or chairperson. Detailed study of selected areas of the nervous system.
408. *Histochemistry*. II. (Alternate Years.) 3 hr. PR: Anat. 305 or 309, biochemistry, and consent of instructor or chairperson. Histochemical theory and techniques.
451. *Advanced Microanatomy*. I, II, or S. 2-4 hr. PR: Anat. 305 or 309, or Biol. 263 and consent of instructor or chairperson. An extension of the major topics included in Anat. 305 or 309. Special emphasis on recent contributions.
491. *Advanced Anatomy*. I, II. 2-8 hr. PR: Consent of chairperson.
497. *Research*. I, II, S. 1-15 hr. PR: Consent of Graduate Committee. (May be repeated as needed with consent of Graduate Studies Committee.)

Biochemistry

Graduate programs in the Department of Biochemistry are designed to assist students in the development of their own capabilities for independent thought and research. All students are provided with a strong biochemistry background; however, the program has sufficient flexibility to allow individual students to select advanced specialty courses in biochemistry which are of particular importance to their career goals. Faculty research problems are of current interest and are diverse, reflecting the broad spectrum of areas encompassing biochemistry.

Admission Requirements

A prospective graduate student should hold a bachelor's degree with a science major and should have successfully completed courses in qualitative-quantitative chemical analysis, organic chemistry, calculus, physics, and physical chemistry. In some cases, a deficiency in the above may be made up after admission into the program.

Application is made by submission of the following items to the Department of Biochemistry: (a) the completed departmental application form (sent on request); (b) three letters of recommendation from professors who can evaluate the student's present abilities and potential; (c) official transcript of the applicant's college grades; and (d) official copy of Graduate Record Examination scores. Owing to the sequence of courses, entrance in the fall is preferred, but exceptions may be made as necessary. Application material and program details may be obtained by writing: The Graduate Coordinator, Department of Biochemistry, School of Medicine, West Virginia University, Morgantown, WV 26506. The deadline for receipt of applications and supporting documents by the department is June 1; to be considered for financial support, applications should be submitted much earlier, preferably by February 1.

Doctor of Philosophy

To assure that all students become familiar with the basic principles of biochemistry, the first year of the Doctor of Philosophy (Ph.D.) program is devoted primarily to course work. In addition to formal courses during the first semester, students participate in a laboratory program which involves all faculty members. This laboratory experience is designed to illustrate the basic research skills involved in biochemistry. During the second semester, students will undertake research in at least two laboratories of their choice.

Upon successful completion of the first year, students will choose a dissertation research adviser, at which time emphasis will be placed on research. During the second year, specialized courses in biochemistry will be offered as the students continue their research programs. During subsequent years, the students emphasize independent thesis research, and a few formal courses are taken.

An essential component of the Ph.D. program is participation in departmental journal clubs and seminars. Both students and faculty participate, thus students learn to effectively organize and present research material to a large group of people.

Completion of the Ph.D. program is realized when the student successfully presents the research results to both the Department of Biochemistry and a graduate advisory committee. Typically, four years are required to realize this goal.

Master of Science

The Department of Biochemistry offers the thesis master's degree. This program involves completion of a master's research project in addition to formal course work. Two to three years are generally required to complete the M.S. program.

Research and Instruction

Research Areas—Hormonal regulation of metabolism. Structure and function of nucleic acids. Chemistry of enzymes and serum proteins. Structure

of connective tissue. Nutritional oncology. Secretory mechanisms. Biogenesis of membranes. Regulation of gene expression.

Biochemistry (Bioch.)

139. *Introduction to Biochemistry*. I. 4-5 hr. PR: General chemistry. (For medical technology and pharmacy students; others by consent.) Lecture and conference, 4 hr.; Laboratory/demonstration, 1 hr.
192. *Selected Topics in Biochemical Research*. I, II, S. 1-6 hr. (May be repeated for a maximum of 12 hr.) PR: Consent.
231. *General Biochemistry*. I. 7 hr. PR: General chemistry, organic chemistry. (For medical students; others by consent.) Consists of seven main lectures, one clinical correlation lecture and one problem session per week.
239. *Clinical Chemical Techniques*. II. 4 hr. PR: Bioch. 139, 231 or equiv. (Primarily for medical technology students; open to other qualified students by consent.)
305. *General Biochemistry*. II. 4 hr. PR: Inorganic chemistry, organic chemistry, and consent. (For dental and graduate students.) Lecture, conference, and demonstration.
- 310/312. *General Biochemistry*. (Offered in conjunction with the Department of Agricultural Biochemistry.) I, II. 4 hr. per sem. PR: General chemistry, organic chemistry. (For graduate students in basic sciences programs.)
399. *Special Topics*. I, II. 1-2 hr. PR: Consent. Journal Club, Teaching, and Laboratory Rotations.
491. *Advanced Study*. I, II. 3 hr. PR: Consent. Physical techniques in biochemistry; nucleic acids; enzymology and protein chemistry; metabolic regulation (each topic—one semester; offered alternate years). Designed primarily to provide a background for students who will do research in biochemistry and molecular biology. (*Metabolic Regulation—Fall, 1986; Enzymology—Spring, 1987.*)
496. *Graduate Seminar*. I, II. 1 hr. PR: Consent. Presentation and discussion of special topics.
497. *Research*. I, II, S. 1-15 hr. PR: Consent.

Conjoined Basic Sciences Courses

In the curricula of the School of Medicine, certain courses are conducted on nondepartmental or interdepartmental lines. These have been designed as Conjoined Courses.

Conjoined Basic Sciences Courses (CC MD)

320. *Electron Microscopy*. II. 2-4 hr. PR: Consent. (For graduate students, upperclass students in the sciences, medical students.) Interdisciplinary. Introduction to cell fine structure and function. Preparation of biological specimens for electron microscopy.
350. *Radiation Safety and Radionuclide Usage*. II. 1-2 hr. PR: Phys. 1 and 2, Chem. 15 and 16 or consent. Chemical, physical, and biological aspects of radiation; safety; handling and storage of radioactive materials; NRC and WVU regulations and licensing; detection and instrumentation, research, and clinical use of radioisotopes.
370. *Medical Genetics*. II. 2-4 hr. PR: Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as Gen. 370, Med. 370, Pedia. 370.)

375. *Neurobiology*. (For medical and a limited number of regular, full-time graduate students in the medical basic sciences.) II. 6 hr. PR: Anat. 301 and Physi. 345, or consent. Anatomy and physiology of the nervous system correlated with clinical neurology.
399. *Selective Experiences in Medicine*. (Fourth Year.) I, II, S. CR. PR: Satisfactory completion of the first three years of medical curriculum. (Graded as S or U.) The fourth year is selective and offers a wide range of opportunities. The student works with the adviser to select the individual program. This program must also be approved by the fourth-year curriculum coordinator in the Office of Student Affairs. The year is composed of eleven 4-week blocks, sixteen of which must be spent in intramural programs on the Morgantown campus or at the Charleston Division—WVU Medical Center. A Catalog is available that lists the specific guidelines for the fourth-year curriculum as well as approved intramural and in-state extramural selectives.

Microbiology

The Department of Microbiology offers programs of study leading to the degrees of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in Medical Microbiology. The basic philosophy of the department is that the students have a strong foundation in basic concepts of microbiology and flexibility in choosing advanced course work in their specific areas of interest. The students are given extensive training in microbiological research methodology. The overall aim of the program is to produce students capable of teaching microbiology and designing and doing independent research in microbiology.

Admission Requirements

Applicants must have had at least four upper-level courses in the biological sciences, two semesters of organic chemistry, two semesters of physics, and a strong background in mathematics—including calculus—in order to be considered for admission. Applicants must submit to the Department of Microbiology a departmental application form, three letters of recommendation, and Graduate Record Examination (GRE) scores—both aptitude and advanced. In addition, transcripts and an official application for admission must be sent directly to the WVU Office of Admissions and Records, P.O. Box 6009, Morgantown, WV 26506-6009. Applicants for admission to a degree program should have a grade-point average of 3.0, or better, and a score of 600 or above on each of the GRE examinations. Early application is encouraged. Applicants desiring financial aid should complete their application before January 1. All applications must be completed by June 1 for fall admission. Applications for admission in the spring semester must be completed by November 1.

Program Requirements

Master of Science (M.S.)

Every student must take courses or demonstrate proficiency by examination in each of the following areas: M. Bio. 310 (Structure and Activities of Microorganisms), M. Bio. 317 (Special Problems in Basic Immunology). At least 3 hours of credit in one or more of the following M. Bio. 491 courses must be completed: Genetics, Immunobiology, Microbial Physiology (including laboratory). The student must also enroll in M. Bio. 391—Advanced Topics. Two semesters of biochemistry are required. The remainder of the course work is selected by the student and the advisory committee from the

following courses: M. Bio. 301, 327 or from any of the M. Bio. Advanced Study courses (M. Bio. 491). M. Bio. 496—Seminar is a required course each semester the student is in residence. All full-time students in the Department of Microbiology are required to participate in teaching at least one semester a year.

The Master of Science program requires 30 hours course work of which at least 20 hours must be in microbiology. Six hours must be in research (M. Bio. 397). A thesis representing original research and a final oral examination are required. A grade-point average of at least 3.0 must be maintained. In general, two years are needed to complete the M.S. program.

Doctor of Philosophy (Ph.D.)

The Doctor of Philosophy candidate must demonstrate knowledge in microbiology and biochemistry equivalent to that of an M.S. student. In addition, appropriate course work as determined by the student's research advisory committee with a grade-point average of 3.0 is required. Where appropriate, course work in related subjects such as computer science, physical chemistry, and statistics will be required. M. Bio. 496—Seminar is a required course each semester that the student is in residence. The Doctor of Philosophy program requires a dissertation representing the results of an original research investigation and passing of qualifying and final oral examinations. All full-time students are required to participate in teaching at least one semester a year. Three years are usually needed to complete the Ph.D. program.

Other

The Department of Microbiology has informal noon-hour journal clubs in immunology and in microbiology. All students are expected to participate in one or more.

For additional information write to the Chairperson, Department of Microbiology, WVU Medical Center, Morgantown, WV 26506.

Research and Instruction

Research Areas—Pathogenic Bacteriology: mode of action of microbial products in pathogenicity; identification and classification of anaerobic microorganisms including filamentous bacteria; oral microbiology; ecology of the oral cavity; clinical microbiology. Mycology: pathobiology of medical mycoses; environmental health implications of fungal and algal toxicoses. Physiology: nutrition and metabolism of a variety of pathogenic microorganisms; growth and protein synthesis in obligate intracellular bacteria. Genetics: basic studies on the mechanisms of genetics including transfer of genetic information; recombinant DNA studies. DNA probes for/and sequencing of aminoglycoside genes. Virology: development of rapid viral diagnostic tests, cytomegalovirus molecular genetics; glycoproteins in cytomegalovirus infection, papilloma virus diseases; bacteriophage-host interactions. Parasitology: host-parasite relationships between helminth parasites and insects and vertebrate hosts; endosymbionts in protozoa. Immunology: immunopathology of pulmonary disease; inflammatory response to inhaled organisms; developmental aspects of immunity, immunology of myasthenia gravis. Other programs: detection of environmental pollutants; effect of environmental agents on host resistance.

Microbiology (M. Bio.)

26. *Microbiology*. (For students in nursing-dental hygiene programs.) I. 4 hr. PR: Chem. 11, 12 or equiv.
220. *Microbiology*. (For pharmacy students.) II. 4 hr. PR or Conc.: Biochemistry. Pathogenic microorganisms, including immunology and antimicrobial agents.
223. *Microbiology*. (For medical technology students; graduate students with consent.) II. 5 hr. PR or Conc.: Organic chemistry. Basic microbiology. Emphasis on immunology, pathogenic microorganisms, and clinical laboratory techniques.
224. *Parasitology*. (For medical technology students.) II. 4 hr. Study of animal parasites and disease vectors with emphasis on disease manifestations, parasite biology, and laboratory diagnosis.
301. *Microbiology*. (For medical students only.) I. 5-7 hr. PR: Organic chemistry, biochemistry. Detailed study of pathogenic microorganisms. Emphasis on use of microbiology in solving clinical problems.
302. *Microbiology*. (For dental students only.) I. 5 hr. PR: Organic chemistry. Detailed study of pathogenic microorganisms. Emphasis on oral flora.
310. *Structure and Activities of Microorganisms*. I. 2 hr. PR or Conc.: Biochemistry; consent. Structure and function of microbes.
317. *Special Problems in Microbiology*. I, II, S. 1-7 hr. per sem.
A. *Special Problems in Basic Immunology*. I. 2 hr. PR or Conc.: M. Bio. 310; biochemistry; consent.
B. *Special Problems in Microbiology*. I, II, S. VR. PR: Consent.
327. *Parasitology*. (For graduate students.) II. 4 hr. PR: Consent. Study of animal parasites and disease vectors with emphasis on disease manifestations, parasite biology, laboratory diagnosis, and current concepts in parasitological research.
391. *Advanced Topics*. I. 3 hr. PR: Consent. Assigned study to develop research laboratory techniques. (Graded as S or U.)
397. *Master's Degree Research or Thesis*. I, II, S. 1-15 hr. PR: M. Bio. 310, 317A, 391. Students may enroll more than once. (Graded as S or U.)
490. *Teaching Practicum*. I and II. 1-3 hr. PR: Consent. Supervised practices in college teaching of microbiology. (Graded as S or U.)
491. *Advanced Study*.
Pathogenic Virology. I. 3 hr. PR: M. Bio. 310 and 317A or equiv., consent. Pathogenesis of medically important viruses and mechanisms for their control.
Pathogenic Bacteriology. I. 3 hr. PR: M. Bio. 310, 317A or equiv., consent. Pathogenic bacteriology, with an emphasis on the mechanisms of pathogenesis. Topics include microbial adherence, toxin production and mechanisms, and normal flora and disease.
Clinical Laboratory Bacteriology. I, II. VR. PR: M. Bio. 310, 317A or equiv., consent. Lectures on the identification of pathogenic microorganisms with an emphasis on bacteria. Laboratory includes a rotation through the hospital clinical microbiology laboratory. Limited enrollment. (Graded as S or U.)
Microbial Genetics. I. 4 hr. PR: M. Bio. 310 or equiv., consent. Molecular aspects of mutation, gene transfer mechanisms, genetic mapping, and genetic control using bacteria and bacteriophage systems as models.
Microbial Metabolism. II. 2 hr. PR: M. Bio. 310, biochemistry, consent. Physiology, metabolism, and regulation of representative microbial groups.
Microbial Metabolism Laboratory. II. 1 hr. Open to departmental graduate students only. Research techniques in metabolic regulation.

Immunobiology. II. 2 hr. PR: M. Bio. 317A or equiv., consent. Discussion of the biological and cellular aspects of immunology. Immunobiology, immunopathology, and cellular immunology receive strong emphasis. (This course is designed to complement Bioch. 423.)

Medical Mycology. I. 4 hr. PR: Consent. Advanced study of the fungi of medical importance, including the pathobiology of mycoses and toxicoses.

Tumor Virology. II. 3 hr. PR: Biol. 315 or equiv., consent. A consideration of the molecular and biochemical aspects of viruses which cause tumors and the mechanisms by which they cause cellular transformation.

Clinical Laboratory Virology. S. 3 hr. per 6-week session. PR: M. Bio. 491 (Pathogenic Virology) or equiv.; consent. Lectures and laboratories on isolation of viruses from clinical specimens. Includes serological methods.

Molecular Virology. I. 3 hr. PR: M. Bio. 310 and 317A or equiv.; consent. Molecular biology of viruses that are important both biologically and medically. Includes a basic introduction to replication and genetics as well as current topics in molecular virology.

496. *Seminar*. I, II. 1 hr. PR: M. Bio. 310 or equiv. (Graded as S or U.)

497. *Ph.D. Research or Dissertation*. I, II, S. 1-15 hr. Students may enroll more than once. (Graded as S or U.)

Pathology

Research Areas—Atherosclerosis; thrombosis; platelet aggregation and functions with correlative ultrastructural study, lipid and lipoprotein metabolism in cultured human endothelial cells; morphometric (including electron microscopic) and biochemical studies on the progression of atherosclerotic lesions in humans; regression of experimental atherosclerotic lesions; ultrastructural aspects of renal disease; ultrastructural reflections of dedifferentiation in neoplasia; histogenesis of neoplasia; biomedical application of laboratory medicine; and applied laboratory studies in microbiology.

Pathology (Path.)

128. *Introduction to Basic Pathology*. I. 2 hr. PR: Enrollment in dental hygiene or physical therapy, or consent. A study of the basic pathologic processes in man.

129. *Introduction to Oral Pathology*. II. 3 hr. PR: Path. 128, dental hygiene major, or consent. Application of fundamental knowledge of general pathology to pathological conditions that occur in the oral cavity.

328. *Basic Pathology*. (For dental students and graduate students, with consent.) II. 5 hr. PR: Anat. 309. General changes in basic pathologic processes and changes evoked in specific organ systems as a basis for understanding clinical disease.

338. *Oral Pathology 1*. II, S. 3 hr. PR: Path. 328, or consent. Clinical, radiographic, and microscopic discussion of local and systemic diseases affecting oral and paraoral structures.

350. *Hematology*. 3 hr. (For certain graduate students, with consent of the chairperson.) Includes morphologic description of formed elements of blood including classification of red blood cell, white blood cell, and platelet disorders. Case material and slide reviews are integral parts of the course work.

351. *Pathology and Laboratory Medicine 1*. (For medical students and limited number of regular full-time graduate students in medical basic sciences and consent of the chairperson.) I. 8 hr. PR: Medicine I Curriculum. Presents pathology as a body of knowledge and a discipline, including laboratory aspects of disease. General pathology, including cell injury, inflammation, neoplasia, thrombosis and circulatory disturbances, is followed by a systemic approach to disease states.

352. *Pathology and Laboratory Medicine 2.* (For medical students and limited number of regular full-time graduate students in medical basic sciences and consent of the chairperson.) II. 7 hr. PR: Path. 351. Continuation of Path. 351.
353. *Oral Pathology 2. I.* 2 hr. PR: Path. 338; consent. Continuation of Path. 338.
355. *Oral Disease Diagnosis and Management.* (For dental students, third year.) II. 1 hr. PR: Path. 338, 353, consent. Oral and systemic diseases are presented clinically, radiographically, and histologically. Diagnosis is established and treatment arrived at through group discussion.
356. *Advanced Pathology. I, II.* 3 hr. PR: Path. 328 or 351; consent. Microscopic and gross specimens from selected autopsies.
382. *Oral Histopathology. I, II.* 1-2 hr. PR: Path. 338, 353, consent. Microscopic study of head and neck lesions.
401. *Special Studies in Oral Pathology. I, II.* 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.
491. *Advanced Study.* 1-3 hr. PR: Consent. Specialized study in subspecialty, such as blood banking, clinical chemistry, immunopathology. (*Special lectures and/or seminar.*)
497. *Research. I, II.* 1-15 hr. PR: Consent.

Pharmacology and Toxicology

Pharmacology and Toxicology involve all aspects of the action of drugs on living systems and their constituent parts. These range from the chemical reactions taking place within cells to the evaluation of a drug in the treatment of human disease. The Department of Pharmacology and Toxicology offers graduate studies leading to the degrees of Master of Science and Doctor of Philosophy, with research concentrations in such areas as autonomic pharmacology, biochemical pharmacology, neuropharmacology, molecular pharmacology, cardiovascular pharmacology, endocrine pharmacology, pharmacogenetics, malarial chemotherapy, immunotoxicology, and renal, hepatic, and pulmonary toxicology.

Admission Requirements

Regular applicants for the graduate program in pharmacology and toxicology should present, as a minimum, the following undergraduate courses: one semester of biology; two semesters of physics; one semester of calculus; five semesters of chemistry including two semesters of organic chemistry and one semester of physical chemistry. Reading knowledge of at least one foreign language is strongly recommended. Three letters of recommendation from science professors, an official transcript, and the results of the Graduate Record Examination—including the advanced test in either chemistry or biology—are also required. The prospective student should have a minimum 3.0 overall grade-point average at the undergraduate level.

In general, students requesting financial support should have all credentials forwarded by February 1. For additional information write: Director of Graduate Studies, Department of Pharmacology and Toxicology, WVU Medical Center, Morgantown, WV 26506.

Master of Science

Ordinarily the department does not accept graduate students solely into a master's program. However, the master's degree is offered and is available as

an intermediate degree en route to the Ph.D. Its primary function, as viewed by the faculty, is as an aid to the student new to research for the formulation, conduct, and writing of an abbreviated, but complete, independent research project (thesis). The course work requirements for the M.S. in pharmacology and toxicology usually consist of Physiology 344 and 345, Biochemistry 231, Statistics 311, Pharmacology and Toxicology 361, 363, 364, 367, 461, 462, and 497. Most students may, with the faculty's concurrence, choose to proceed directly with their doctoral research without a master's degree. These students must submit a comprehensive progress report on their research in lieu of a thesis.

Doctor of Philosophy

Before official admission to candidacy for the doctorate, the student must satisfactorily complete a grant writing exercise, an acceptable progress report, and an oral comprehensive qualifying examination. When a student has submitted a grant proposal, a committee—ordinarily consisting of at least three members of the Department of Pharmacology and Toxicology and two members from outside the department—is appointed and constitutes the oral examining body. The oral qualifying examination will be administered in January of the student's third year in the program.

Dissertation

Upon admission to candidacy for the degree of Doctor of Philosophy, the candidate must select a topic for the dissertation under the direction of the candidate's adviser, complete a dissertation that makes a contribution to knowledge in the candidate's area of concentration, and pass an oral examination based primarily upon the dissertation. After successful completion of the oral examination and submission of the final copy of the dissertation, the candidate will be recommended for the degree.

Research and Instruction

Research Areas — Autonomic pharmacology: Autonomic regulation of the cardiovascular system and of smooth muscle; sensitivity to autonomic drugs; electrophysiologic studies of cardiac and smooth muscle; synthesis, storage, release, and metabolism of transmitters and adrenal medullary hormones. Chemotherapy: Antimalarial agents, anticancer agents, effects of pharmacological agents on single cell organisms. Biochemical pharmacology: Drug metabolism, effects of drugs on lipid and nucleic acid metabolism. Endocrine pharmacology: Mechanism of action of steroids, metabolism of sex accessory tissues, relationship of hormones to tumor growth and development. Neuropharmacology: Biochemical basis of epilepsy, mechanism of action of anticonvulsant drugs, neuromediators in the central nervous system. Toxicology: Metabolism of toxic agents, pulmonary toxicology, renal toxicology, immunotoxicology, and environmental toxicology, perinatal pharmacology and toxicology. Electron microscopy: Effects of drugs on the ultrastructure of cells.

Pharmacology and Toxicology (Pcol.)

160. *Pharmacology*. (For undergraduate students in the paramedical sciences.) II. 3 hr. Interactions of clinically useful therapeutic agents with the mammalian system.
243. *Pharmacology for Pharmacy Students*. I. 4 hr. PR: Completion of first year in Pharmacy; approval of course director. Principles, pharmacodynamic actions, and therapeutic applications of clinically useful drugs.

360. *Pharmacology and Therapeutics*. (For dental and graduate students.) I. 4 hr. PR: Dental student standing or consent. Lecture and demonstrations on pharmacological actions and therapeutic uses of drugs.
361. *Pharmacology*. (For medical students and a limited number of regular, full-time graduate students in medical basic sciences departments.) II. 6 hr. PR: Consent of department chairperson. Lecture-conference-laboratory on principles, pharmacodynamic actions, and therapeutic applications of clinically useful drugs.
362. *Occupational Toxicology*. II. 3 hr. PR: Consent. General principles of toxicology with special emphasis on occupational health. Classes of chemicals which pose problems in the work place will be emphasized.
363. *Toxicology*. I. 3-4 hr. (Variable credit, majors enroll for 4 hr.; non-majors for 3 hr.) PR: Consent. Theoretical concepts and general principles of toxicology with special emphasis on molecular mechanisms of toxicity. (3-4 hr. lec.)
364. *Advanced Pharmacology*. I. (Alternate Years.) 1-5 hr. PR: Pcol. 361 or consent. Advanced lectures and discussion of general principles of pharmacology and toxicology and advanced lectures in biochemical, endocrine, pulmonary, and cardiovascular pharmacology (1-5 hr. lec.) (*Offered every second year; next offering 1986-87.*)
367. *Advanced Neuropharmacology*. I. 1-5 hr. PR: Pcol. 361 or consent. Advanced lectures and discussion on drug receptor theory, neurophysiological aspects of pharmacology, supersensitivity, and the actions of drugs on the central and peripheral nervous system. (1-5 hr. lec.) (*Offered every second year; next offering 1987-88.*)
461. *Seminar in Pharmacology*. I, II. 1 hr. per sem. PR: Pcol. 361 or graduate status in basic medical sciences.
462. *Literature Survey*. I, II. 1 hr. per sem. PR: Graduate status in pharmacology and toxicology. Current literature pertinent to pharmacology and toxicology including journals of allied biological sciences.
490. *Teaching Practicum*. I, II. 1-2 hr. per sem. PR: Pcol. 361 and consent. (For advanced graduate students.) Critical evaluation of preparation and delivery of lectures in specified areas of pharmacology and toxicology.
497. *Research*. I, II, S. 1-15 hr. per sem.

Physiology

The Ph.D. program is designed to produce physiologists of high quality, capable of conducting independent research and being effective teachers. Students in our department are exposed to all aspects of physiology and a variety of related sciences. Our graduates, as a result of this rigorous training, may pursue careers in any area of physiology, and can interact creatively with scientists in related fields. The master's program is designed as an introduction to research in physiology for students interested in, but not yet committed to, a research career. Students in this program receive training in the fundamentals of physiology and experience in a research laboratory.

Admission Requirements

Applicants should have a strong background in biology and/or chemistry. In addition to a basic biology course, it is strongly recommended that applicants have taken cellular or molecular biology and an introductory physiology course; a course on comparative anatomy also provides particularly useful background information. Inorganic and organic chemistry are basic requirements, while physical chemistry is recommended, but not required.

Finally, as several areas of physiology require an understanding of the fundamentals of calculus and physics, introductory courses on these subjects are also essential.

The department requires the following materials for consideration for the M.S. or Ph.D. program: Three letters of recommendation, transcripts of all undergraduate and graduate grades, a completed departmental application form, and Graduate Record Examination scores (aptitude and one advanced test). A bachelor's degree or equivalent is required for admission; an M.S. degree is not a prerequisite for the Ph.D. program.

A complete application kit and detailed descriptions of the degree programs may be obtained by writing to the Graduate Adviser, Department of Physiology, West Virginia University School of Medicine, Morgantown, WV 26506. Although applications may be submitted as late as May of the year of matriculation, applications must be received before February 1 to be considered for financial aid.

Master of Science

Prerequisites for admission to the master's program are the same as those for the doctoral program. The first two semesters are devoted largely to course work in physiology (12 hours of Graduate Physiology, 4 hours of Neurophysiology, and 4 hours of Physiological Methods). Students are also introduced to the research interests of the faculty through the graduate colloquium and rotations in each faculty member's laboratory. At the end of the second semester, students pick a thesis adviser and begin work in that laboratory during the summer. The second year is spent primarily on research for and writing of the master's thesis. Students are required to take 2 hours of Advanced Physiology and present two research seminars during the year.

Doctor of Philosophy

The first year curriculum familiarizes the student with the basic information and principles that form a background for advanced work in physiology. Much of this overlaps with the basic science material presented to medical students so that all students attend several medical school courses, including biochemistry and neurophysiology. Much of the first year is devoted to graduate physiology (6 hours/semester). This course is based upon lectures in medical physiology, supplemented with conference sessions that introduce students to current literature. Finally, students lacking a statistical background are expected to take a basic statistics course.

In addition to this course work, students are introduced to the research interests of the physiology faculty through the graduate colloquium and rotations in each faculty member's laboratory. The latter are designed to help students choose a thesis adviser by exposing them to the experimental approaches and techniques used in different laboratories within the department.

During the first summer, students are expected to begin research projects in a departmental research laboratory of their choice. This allows a student to explore an area of research interest, and to develop a working relationship with a faculty member, without a firm commitment to pursue a thesis project in that laboratory.

During the second year the student combines course work with the continuing development of research interests. A graduate adviser is selected during this year. Courses include: Advanced Physiology (12 hours), Physio-

logical Methods (4 hours), Graduate Colloquium (2 hours), Graduate Seminar (1 hour), and a Teaching Practicum.

The second-year curriculum takes the student beyond the medical curriculum, emphasizing critical appraisal of the current research literature. In addition, the student begins to develop his/her teaching skills. The purposes of the graduate colloquium and seminar are twofold. First, they give students an opportunity to become informed of the latest scientific advances. Secondly students have an opportunity to develop and practice presentation of research seminars. In addition to presentations by faculty and students from the Department of Physiology, faculty members from other departments at WVU and from other institutions are invited to present seminars in the program.

After successful completion of the second academic year, the student takes a two-part qualifying examination. The qualifying examination consists of a comprehensive written examination covering all of the major areas of physiology, followed by a written and oral research design examination. Upon successful completion of the qualifying examination, the student is admitted to candidacy for the degree of Doctor of Philosophy.

During the third and fourth years the student may enroll in elective courses. Yearly participation in the teaching practicum provides additional experience in delivering lectures to undergraduate and professional students. However, the student's major effort is directed toward dissertation research. Results of this effort are presented annually in the graduate colloquium. During these years the student will attend and present papers at national meetings of scientific societies (e.g., American Physiological Society, Biophysical Society, Endocrine Society, Federation of American Societies for Experimental Biology, Society for Neurosciences). The Ph.D. degree generally can be completed in four years.

Research and Instruction

Research Areas—Faculty laboratories offer opportunities for research in cardiovascular, cell, endocrine, gastrointestinal, muscle, neural, renal, and respiratory physiology.

Physiology (Physi.)

141. *Elementary Physiology*. (For undergraduate students in paramedical sciences.) II. 4 hr. PR: College biology and chemistry, or consent. Systematic presentation of basic concepts. 3 lec., 1 lab.
241. *Mechanisms of Body Function*. I. 4 hr. PR: College chemistry, biology, physics, and algebra or graduate status and approval. A systematic examination of the homeostatic functions of the human body with emphasis on the physicochemical mechanisms involved. Pathophysiology and clinical correlations are introduced in relation to normal physiology.
248. *Experimental Design*. (For advanced undergraduate and selected graduate students.) II. 3 hr. PR: Consent. Theory and practical experience in design of experiments and processing of physiological data using small laboratory digital computers. 1 lec., 2 lab.
341. *Physiological Methods* 1. II. 1-5 hr. PR: Consent. Research techniques and strategies for physiology.
342. *Physiological Methods* 2. I. 1-4 hr. PR: Consent. Research techniques and strategies for physiology.

343. *Fundamentals of Physiology*. (For dental students and a limited number of regular full-time graduate students in medical center basic sciences departments.) I. 5 hr. PR: College physics, algebra, chemistry, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems and their control. 3 lec., 1 conf., 1 lab.
344. *Medical Physiology 1*. (For medical and a limited number of regular full-time graduate students in medical center basic sciences departments.) I. 5 hr. PR: College physics, algebra, chemistry, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems, and their control, with clinical correlations. 5 lec., 1 conf.-lab.
345. *Medical Physiology 2*. (For medical and a limited number of regular full-time graduate students in medical center basic sciences departments.) II. 5 hr. PR: Physi. 344 and consent of department chairperson. Continuation of Physi. 344. 5 lec., 1 conf.-lab.
346. *Neurophysiology*. (For graduate students in medical center basic sciences departments and a limited number of regular full-time graduate students.) II. 1-4 hr. PR: Math. 3 or 141, Phys. 1 and 2 or consent of department chairperson. Properties of excitable tissues (nerve and muscle), synaptic transmission, reflexes and central nervous system function, and behavior. 1-3 lec., 1 conf.
350. *Graduate Physiology 1*. (For graduate students in the medical center basic sciences departments and a limited number of other regular full-time graduate students.) I. 6 hr. PR: Calculus, college physics, organic chemistry, biology, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems, and their control.
351. *Graduate Physiology 2*. (For graduate students in the medical center basic sciences departments and a limited number of other regular full-time graduate students.) II. 6 hr. PR: Physi. 344 or 350 and consent of department chairperson. Continuation of Physi. 350.
399. *Special Topics*. I, II, S. 1-4 hr. PR: Consent. Assigned study designed to develop research skills.
444. *Graduate Seminar*. I, II. 2 hr. PR: Graduate standing and consent. (*Graded as S or U.*)
490. *Teaching Practicum*. I, II. 1-3 hr. PR: Consent. Supervised practices in college teaching of physiology. (*Graded as S or U.*)
491. *Advanced Physiology*. I, II, S. 1-15 hr. PR: Consent. Lecture-conference in: cellular physiology, neurophysiology, circulation, respiration, acid-base and renal physiology, digestion and energy metabolism, and endocrinology. 3 lec., 3 conf.
497. *Research in Physiology*. I, II, S. 1-15 hr.
498. *Thesis*. I, II, S. 2-4 hr. PR: Consent. (*Graded as S or U.*)
499. *Graduate Colloquium*. I, II. 1 hr. PR: Consent. (*Graded as S or U.*)

School of Dentistry

The School of Dentistry was established by an act of the West Virginia Legislature on March 9, 1951, and the first class began studies in September, 1957. The 23 members of that class were graduated in 1961, receiving the first dental degrees awarded in West Virginia. More than 200 students are now enrolled in the accredited dental program. In September, 1961, the first students were enrolled in the school's degree program in dental hygiene and were graduated in 1965.

The profession of dentistry offers many career opportunities. In addition to the general practice of dentistry, specialty practice areas may be pursued by further study. The fields of dental education and research provide the opportunity for satisfying and interesting careers. Dental auxiliary careers such as dental hygiene may be pursued. Men and women entering the dental health care delivery system find that they play an important role in the exciting and challenging world of the modern health sciences.

The School of Dentistry of West Virginia University offers programs of education leading to the degrees of Doctor of Dental Surgery, Master of Science with majors in Endodontics and Orthodontics, and Bachelor of Science in Dental Hygiene. One oral surgery internship and three oral surgery residencies are offered by the Department of Oral Surgery. Programs leading to the Master of Science and Doctor of Philosophy degrees are available in the associated basic sciences. Seven general practice residencies are offered by the School of Dentistry, University Hospital, and the Charleston Area Medical Center. Continuing education courses for dentists and auxiliaries are offered throughout the year on a wide variety of dental topics.

Administration of the School of Dentistry is the responsibility of the Dean. He is aided in this function by four associate deans and the clinical and medical center basic sciences chairpersons. This administrative group, the Faculty Council, serves in an advisory capacity to the Dean in carrying out the established policies of the School of Dentistry and of the University.

Doctor of Dental Surgery Program (D.D.S.)

The School of Dentistry offers a program of education leading to the degree of Doctor of Dental Surgery (D.D.S.). The requirements for admission and the curriculum conform to the standards established by the American Dental Association Commission on Dental Accreditation.

Admission

Application for admission in the Fall of 1987 should be made promptly upon completion of the 1985-86 school year, even if the applicant has not completed all the requirements as listed.

The School of Dentistry participates in the American Association of Dental Schools Application Service (AADSAS). All applications are processed by that organization. Application request cards are available at the Office of Admissions and Records, 1170 Basic Sciences Building, WVU Medical Center, Morgantown, WV 26506. Request cards should be submitted to AADSAS as promptly as possible. The deadline for submission of a completed AADSAS application to the AADSAS office, for admission to the West Virginia University School of Dentistry in the Fall of 1987, is November 1, 1986. This deadline is deliberately and explicitly discussed in the AADSAS instruction

booklet and thus should be reviewed carefully by the applicant. Since deadline dates are so important, you are strongly urged to give this part of the application procedure your strict attention.

Because of the large number of applicants and limited openings available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Nonresident applicants should have a grade-point average of 3.0 or above and an average score on the Academic and PMAT sections of the Dental Admission Test of at least 4-4. Economically or culturally disadvantaged students (especially if they are West Virginia residents) are encouraged to apply.

Each applicant is required to satisfactorily complete the Dental Admission Test. It is suggested that the test be taken in April, before making application in June, for admission in the fall. This test is given at testing centers throughout the United States and its possessions, and in Canada. Application cards may be secured by writing to: Division of Testing, Council on Dental Education, 211 E. Chicago Ave., Chicago, IL 60611.

Applicants for admission must present evidence of having successfully completed three or more academic years of work in liberal arts in an accredited college. The prerequisite courses should include:

	<i>Sem. Hr.</i>
English Composition and Rhetoric, or equivalent	6
Zoology or Biology (with laboratory)	8
Inorganic Chemistry (with laboratory)	8
Organic Chemistry (with laboratory)	8
Physics (with laboratory)	8

Courses in comparative anatomy, embryology, and biochemistry are strongly recommended. In addition, courses in the humanities and the social sciences are suggested in order to acquire a broadened intellectual background for both the study and practice of dentistry.

All applications are reviewed and those most qualified are invited to appear for a personal interview. The Committee on Admissions will advise the applicants of the time and place of the interview.

Admission to the WVU School of Dentistry is contingent upon satisfactory completion of all admission requirements as stated above, appropriate completion of all application instructions, submission of all transcripts from each college attended, personal interview, and satisfactory completion of all courses taken before the time of registration in dental school (includes courses taken during the summer session immediately preceding admission enrollment).

Final acceptance of a student is contingent upon satisfactory completion of all requirements.

Promotion

At the end of each grading period (i.e., each academic semester or session) all students will have their individual progress reviewed by the academic standards committee convened for their class. The progress of each student in the curriculum is governed by a set of minimum acceptable performance standards upon which the academic standards committee bases its decisions.

The standards consist of three categories: (1) scholastic performance; (2) clinic utilization; and (3) professional development. Scholastic performance requires that each student must earn a specified grade-point average to be

promoted to the succeeding year. Clinic utilization requires that each student must utilize a specified percentage of available clinic time to demonstrate steady progress toward attainment of clinical competency. Professional development is an important component of the study of dentistry. The criteria for determining this development are based on the student's personal behavior and patient management.

These performance standards are explained in detail in the "Curriculum and Academic Standards Statement for the WVU School of Dentistry." All first-year students are presented this statement prior to entering school and are required to acknowledge by their signature that they have read and accepted the conditions set by the material contained therein.

At the completion of each academic term, following the Committee on Academic Standards meetings, the status of each student is reported to the Dean and Faculty Council. The committee may recommend that a student be promoted unconditionally, be promoted on probation, be allowed to make up deficiencies, be given the opportunity to repeat the year, or be suspended or dismissed from further studies in the School of Dentistry. Final disposition in each case is the prerogative of the appropriate Committee on Academic Standards and the Dean.

Requirements for the Degree (D.D.S.)

Candidates for graduation are recommended by the faculty of the School of Dentistry to the Board of Regents for its approval and for the conferring of the degree of Doctor of Dental Surgery (D.D.S.), provided they fully meet the following conditions:

1. Shall have been in regular attendance in the School of Dentistry for the academic period prescribed for each student.
2. Shall have completed the prescribed curriculum for each of the academic sessions.
3. Shall have shown good moral character and shall have demonstrated a sense of professional responsibility in the performance of all assignments as a student.
4. Shall have met in full all financial obligations to the University.

In view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of the University the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

Attendance at the spring Commencement is voluntary. If you don't plan to attend, leave the complete mailing address to where you want your diploma mailed at the Dean's Office.

Curriculum

The School of Dentistry recognizes its obligation to produce professionals capable of meeting the dental health needs of society and providing leadership for the dental profession. Therefore, the school offers a four-year program leading to the degree of Doctor of Dental Surgery (D.D.S.) that provides students with a learning environment in which to develop the technical competence, intellectual capacity, and professional responsibility necessary to meet the dental health needs of a society in a state of constant transformation. In order to insure the achievement of these goals, the dental curriculum is continually reviewed and revised.

SCHOOL OF DENTISTRY CURRICULUM PLAN

	First Year (1,200 hr.)	Summer Session (320 hr.)	Second Year (1,200 hr.)	Summer Session (320 hr.)	Third Year (1,200 hr.)	Summer Session (320 hr.)	Fourth Year (1,200 hr.)
				Basic Dental Science	Basic Biologic Science	Bio-Clin. Sci. Comm. Dent.	
100		Basic Dental Science	Basic Biologic Science	Bio-Clinical Sciences			
200	Basic Biologic Science	Bio-Clinical Sciences		Clinical Dentistry	Bio-Clinical Sciences	Clinical Dentistry	
300		Clinical Dentistry		Unsched.		Unscheduled Time	
400		Unsched.	Basic Dental Science		Comm. Dent.		
500							
600	Basic Dental Science		Bio-Clinical Sciences				
700					Clinical Dentistry		
800			Comm. Dent.				
900	Bio-Clinical Sciences		Clinical Dentistry				
1,000	Comm. Dent.						
1,100	Clinical Dentistry						
1,200	Unscheduled Time		Unscheduled Time		Unscheduled Time		Unscheduled Time

The basic required courses in the curriculum are presented throughout the first seven semesters and two eight-week summer sessions. During this time all students are enrolled in courses designed primarily to prepare them for the general practice of dentistry. Throughout the program overall student progress is continually monitored by the Committee on Academic Standards. Upon satisfactory completion of the first semester of the third year, the student is provided the opportunity to indicate a specific interest in a fourth-year curriculum track. Available tracks are the general practice track, basic biologic science track, and specific clinical interest track. Upon satisfactory completion of the second semester of the third year, the faculty adviser and the student prepare a specific individualized curriculum for the fourth year. This aspect of the dental curriculum provides the opportunity for the student to pursue areas of special interest through the appropriate track, while continuing to develop competency in all clinical disciplines. In addition to the required courses, fourth-year students are required to register for at least 3 hours of electives during each semester enrolled.

At the present time, a number of state boards of dentistry require evidence of participation in continuing education for license renewal. In addition, a significant number of state associations require similar evidence for continued membership in good standing. Consequently, fourth-year electives provide the opportunity for students to pursue areas of special interest and, at the same time, they serve as a means of encouraging students to continue their education throughout their professional careers.

The individualized curriculum developed by the student and faculty adviser must be approved by the Curriculum Committee Chairperson and the Associate Dean for Academic Affairs. The student will pursue the approved curriculum through completion of the D.D.S. program.

Additional requirements include participation in mock board examinations by fourth-year students and three weeks of remote-site training by all students. Furthermore, students must satisfactorily complete all courses that are attempted.

Students, having developed competency in all clinical disciplines, and having met all other requirements, are eligible for consideration for graduation at the end of term I of the fourth year.

Dental Clinic

Clinical training and experience constitute a major part of the curriculum for dental and dental hygiene students. Facilities for dental and dental hygiene students include 160 treatment cubicles and all necessary related laboratories. The students, treating their assigned patients under close supervision of faculty, are provided practical experience while rendering a much needed service to thousands of patients annually.

Books and Instruments

Dental students are required to obtain necessary textbooks for the scheduled courses and special instruments for use in the various laboratories and clinics. Lists of approved instruments and books will be provided at the time of registration, and these supplies will be made available through University services. Official authorization is essential in the purchase of all instruments and books used in dental courses. All dental students must maintain a library of required textbooks through graduation. Used books, instruments, and equipment are not acceptable.

Organizations

American Student Dental Association. Predoctoral and advanced education dental students are eligible to become members of the American Student Dental Association. Membership provides for student membership in the American Dental Association.

American Association of Dental Schools. All dental and auxiliary students, including advanced education students, are eligible to become student members of the American Association of Dental Schools during the period of enrollment in the School of Dentistry.

WVU School of Dentistry Alumni Association. In a series of meetings held during May, 1961, the first senior class of the School of Dentistry established the WVU School of Dentistry Alumni Association. The association promotes the educational program of the School of dentistry. Full membership is extended to all graduates of the school, and associate memberships are available to others interested in the aims of the association.

Omicron Kappa Upsilon. On February 6, 1961, the Alpha Beta Chapter of the Omicron Kappa Upsilon, national honorary dental society, was chartered at the School of Dentistry. Student membership is limited to 12 percent of each senior class. Candidates are selected from the academically superior 20 percent.

Dental Fraternities. Chapters of three national dental fraternities were organized and established in 1962. First formal initiation ceremonies were conducted on February 9, 1962, by Beta Theta Chapter of Xi Psi Phi and Chi Chi Chapter of Delta Sigma Delta, and on February 10, 1962, by Sigma Chapter of Psi Omega. Membership in each fraternity is limited by an established class quota. Individual eligibility is based upon an accumulated 2.0 average.

SCHOOL OF DENTISTRY COURSE SCHEDULE

	Credit Hours	1st Sem.	2nd Sem.	S.
First Year—Didactic Courses				
300 — Anesthesiology	1			x
303 — Oral Diagnostic Techniques	2		x	
304 — Operative Dentistry	4		x	
305 — General Biochemistry	4		x	
306 — Gross Anatomy of the Trunk and Extremities	4	x		
307 — Gross Anatomy of Head & Neck & Neuroanatomy	5		x	
309 — Microanatomy and Organology	4	x		
310 — Dental Anatomy and Occlusion	6	x	x	
311 — Periodontics	1			x
312 — Dental Materials	3	x		
313 — Removable Prosthodontics	3	x		
314 — Fixed Prosthodontics	1			x
315 — Periodontics	2		x	
316 — Removable Prosthodontics	1			x
317 — Removable Prosthodontics	1		x	
318 — Oral Histology and Embryology	2		x	
319 — Pediatric Dentistry	1		x	
320 — Community Dentistry	1	x		
321 — Endodontics	2			x
322 — Operative Dentistry	2			x
323 — Clinic Orientation	1			x
Second Year—Didactic Courses				
302 — Microbiology	5	x		
325 — Practice Management	1		x	
327 — Oral Radiology	1	x		
328 — General Pathology	5		x	
329 — Operative Dentistry	2	x		
330 — Community Dentistry	1	x		
331 — Dental Anatomy and Occlusion	2			x
332 — Community Dentistry	1		x	
333 — Physical Diagnosis	1		x	
334 — Removable Prosthodontics	3	x	x	
335 — Pediatric Dentistry	2	x	x	
336 — Fixed Prosthodontics	6	x	x	
337 — Oral Diagnosis	1		x	
338 — Oral Pathology	3		x	x
339 — Oral Surgery	1		x	
340 — Periodontics	1	x		
341 — Removable Prosthodontics	2			x
342 — Periodontics	1	x		
343 — Fundamentals of Physiology	5	x		
345 — Principles of Orthodontics	1		x	
346 — Orthodontic Technics	1			x
347 — Management of Medical/Dental Emergencies	1			x
348 — Operative Dentistry	1			x
349 — Hospital Dentistry	1			x
Second Year—Clinical Courses				
375 — Dental Practice Management	1-3		x	x
376 — Removable Prosthodontics	2-6		x	x
377 — Periodontics	1-4		x	x
380 — Endodontics	1-4		x	x
383 — Operative Dentistry	2-8		x	x
384 — Oral Surgery	1-3		x	x
386 — Pediatric Dentistry	1-5		x	x
387 — Clinical Oral Diagnosis	1-3		x	x
389 — Fixed Prosthodontics	2-6		x	x
396 — Clinical Oral Radiology	1-3		x	x

SCHOOL OF DENTISTRY COURSE SCHEDULE (Continued)

	Credit Hours	1st Sem.	2nd Sem.	S.
Third Year—Didactic Courses				
326—Community Dentistry	2		x	
347—Management of Medical/Dental Emergencies	1		x	
350—Removable Prosthodontics	2	x	x	
351—Dental Anatomy and Occlusion	1		x	
352—Community Dentistry	2	x	x	
353—Oral Pathology	2	x		
354—Practice Management	1		x	
355—Clinico-Pathologic Correlation Conference	1		x	
357—Fixed Prosthodontics	2	x	x	
358—Operative Dentistry	1		x	
359—Oral Surgery	2	x	x	
360—Pharmacology	4	x		
361—Pediatric Dentistry	1	x		
362—Endodontics	1	x		
363—Periodontics	2	x	x	
364—Pain and Anxiety Control	1	x		
365—Orthodontics	1		x	
366—Pediatric Dentistry	1		x	
371—Practice Management	2	x		
372—Practice Management	1		x	
373—Practice Management	1		x	
374—Principles of Medicine	2	x		
Third Year—Clinical Courses				
375—Practice Management	1-3	x	x	x
376—Removable Prosthodontics	2-6	x	x	x
377—Periodontics	1-4	x	x	x
380—Endodontics	1-4	x	x	x
383—Operative Dentistry	2-8	x	x	x
384—Oral Surgery	1-3	x	x	x
385—Orthodontics	1-3	x	x	x
386—Pediatric Dentistry	1-5	x	x	x
387—Clinical Oral Diagnosis	1-3	x	x	x
388—Pediatric Dentistry	1	x	x	x
389—Fixed Prosthodontics	2-6	x	x	x
394—Community Dentistry	1-12			x
395—Hospital Dentistry Practicum	1-15			x
396—Clinical Oral Radiology	1-3	x	x	x
Fourth Year—Clinical Courses				
375—Practice Management	1-3	x	x	
376—Removable Prosthodontics	2-6	x	x	
377—Periodontics	1-4	x	x	
380—Endodontics	1-4	x	x	
383—Operative Dentistry	2-8	x	x	
385—Orthodontics	1-3	x	x	
386—Pediatric Dentistry	1-5	x	x	
387—Clinical Oral Diagnosis	1-3	x	x	
388—Pediatric Dentistry	1	x	x	
389—Fixed Prosthodontics	2-6	x	x	
394—Community Dentistry	1-12	x	x	
395—Hospital Dentistry Practicum	1-15	x	x	
396—Clinical Oral Radiology	1-3	x	x	
397—Special Topics	1-15	x	x	

The relationship of the number of elective and/or required hours during the fourth year may vary with each student depending upon the individual student's progress.

Courses of Instruction in Dentistry (Dent.)

Each course is designated by the name of the department teaching it, its number and title, the semester in which it is offered, and hours of credit. Generally, those courses given in the first year are numbered 300-324; second year, 325-349; third year, 350-374; and fourth year, 375-399. Elective opportunities are offered to students during the fourth year of study. (See courses 394 and 397.) Other University courses may be taken with the approval of the student's adviser and the Associate Dean for Instruction.

Community Dentistry

Professor McCutcheon (*Chairperson*) and Thompson; Adjunct Associate Professor Murphy; Associate Professors Ingersoll, Meckstroth, and Wilson; Assistant Professor Dice; Clinical Instructors Broughton, Kuhn, Shelton, N. Taylor, and Wallace.

- 320. *Community Dentistry*. II. 1 hr. Fundamentals of statistical analysis and the scientific method necessary to the understanding of dental research.
- 330. *Community Dentistry*. I. 1 hr. Lectures provide the student with a basic knowledge of the principles of dental public health practice. Emphasis on dental epidemiology and preventive dentistry at the community level.
- 352. *Community Dentistry*. Yr. 2 hr. Seminars, proseminars, and field experience in selected topics of professional communication, health education, and the sociology and psychology of community health.
- 370. *Community Dentistry*. 1 hr. PR: Consent. Clinical, social, and community health considerations in the oral health care of geriatric patients.
- 394. *Community Dentistry*. I, II. 1-15 hr. Field experience in various aspects of community health.

Dental Anatomy and Occlusion

Associate Professors Foor, Crout, Rodeffer, N. Smith, and VandenBosche; Assistant Professor Stewart; Instructor Estep; Clinical Assistant Professor W. Taylor.

- 310. *Dental Anatomy and Occlusion*. Yr. 6 hr. Anatomy of individual teeth, both permanent and primary, in regard to form and function and their static and dynamic occlusal relationships.
- 331. *Occlusion*. S. 2 hr. PR: Consent. Didactic and clinic/laboratory instruction in the basic techniques and procedures associated with the treatment of conditions related to faulty occlusion.
- 351. *Occlusion*. II. 1 hr. PR: Consent. Advanced study of the science of occlusion with particular attention to its impact on the clinical diagnosis and treatment of occlusal disorders.

Dental Materials

Professor Overberger; Associate Professors Hart and VandenBosche.

- 312. *Dental Materials*. I. 3 hr. Composition, physical, chemical, mechanical, and manipulative properties, and technical uses of dental restorative materials as related to dentistry.
- 397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Dental Practice Management

Professors Puderbaugh (*Chairperson*), Cady, and Walker; Associate Professor Hickman; Instructor Estep.

325. *Practice Management*. II. 1 hr. A lecture course designed to prepare dental students in the concepts of four-handed dentistry.
354. *Practice Management*. II. 1 hr. PR: Departmental consent. Lectures covering the origin and development of dentistry. (1 hr. lec.)
371. *Practice Management*. I. 2 hr. PR: Dent. 325. A lecture series on the fundamentals of practice management, including the organization and development of the practice, personnel and financial management, and the introduction to TEAM dentistry.
372. *Practice Management*. II. 1 hr. (Ethics.) Lectures and discussion on the principles of ethics applied to dental practice.
373. *Practice Management*. II. 1 hr. (Jurisprudence.) Lectures on the fundamental legal rights, obligations, and responsibilities of the dentist.
375. *Practice Management*. Yr. and S. 1-3 hr. PR: Consent. Clinical practice using auxiliaries, including those trained in expanded functions.

Endodontics

Professors Alberico, Biddington, Griffin, and Skidmore (*Chairperson*), and Balaban; Assistant Professor D. Taylor; Instructor D. Blanc.

321. *Endodontics*. S. 2 hr. Preclinical lectures and laboratory exercises on basic technical and biological requisites in the treatment of diseases of the dental pulp and the periapical tissues.
362. *Endodontics*. I. 1 hr. Lectures on rationale, diagnosis, prevention, and nonsurgical and surgical treatment of diseases of the dental pulp and their sequelae.
380. *Endodontics*. Yr. and S. 1-4 hr. Clinical endodontic instruction in order to develop the skills and judgment necessary to treat diseases of the dental pulp and their sequelae.
390. *Clinical Endodontics*. I, II, S. 1-5 hr. (*May be repeated for credit.*) PR: Graduate of an accredited dental school and admission to the Advanced Education Program in Endodontics or consent. Clinical endodontic practice in the areas of: ordinary endodontic cases, complex endodontic cases, hemisection, root amputation, replantation, transplantation, endodontic implantation, vital pulp therapy, apexification, and bleaching.
391. *Endodontic Theory*. I, II, S. 2 hr. PR: Consent. Provides seminar discussions in the topics of: basic endodontic techniques, advanced endodontic techniques, endodontic literature review, case presentation, and advanced endodontic theory.
397. *Special Topics*. (*Fourth Year.*) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Hospital Dentistry

Professor Welch (*Chairperson*); Associate Professor Bakos; Assistant Professors Marshall and Oscanyan; Clinical Associate Professors Christian and Cogan; Clinical Assistant Professors Black, Gilbert, Haddox, Haley, Hancock, Jackfert, Kennedy, McCutcheon, Mott, Rosenfeld, Russell, Skaff, Sokolosky, Vargo, and Wilkerson; Clinical Instructors Brace, Capriolo, Coffman, Courtney, Fagan, Farris, Kuyk, Lee, Payne, and Wilbourn.

333. *Physical Diagnosis*. II. 1 hr. Lectures and demonstrations procedures involved in performing a physical examination and in understanding the hospital medical chart from the standpoint of history, physical examination, laboratory, and x-ray examination data.
347. *Management of Medical/Dental Emergencies*. II. 1 hr. Assessment and treatment of the medical risk patient as related to the practice of dentistry. CPR instruction included.

349. *Hospital Dentistry*. S. 1 hr. Hospital protocol and hospital dentistry as related to various dental disciplines. Students will be assigned a one-week hospital rotation where they are involved in care of the hospitalized dental patient.
374. *Principles of Medicine*. I. 2 hr. General diseases about which the dental student should have intelligent working knowledge. Students are assigned to specific hospitalized patients to review their findings with the class.
395. *Hospital Dentistry Practicum*. I, II, S. 1-15 hr. Hospital experience (remote site) in the various aspects of care of the hospitalized dental patient. Provides continuation of experiences gained in Dent. 349.

Operative Dentistry

Professor Sausen (*Chairperson*); Associate Professors Bridgeman, Chapman, Foor, Frye, Gladwin, Hart, Jackson, Kelly, Naylor, Rodeffer, F. Stevens, J. Stevens, and VandenBosche; Assistant Professor Bennett.

304. *Operative Dentistry*. II. 4 hr. Preclinical course in principles of cavity preparation, manipulation of plastic restorative materials, and related instrumentation. Characteristics and treatment of caries emphasized.
322. *Operative Dentistry*. S. 2 hr. Preclinical course to include a variety of cavity forms and their restoration with compacted golds. Certain fundamentals of pedodontics introduced.
329. *Operative Dentistry*. I. 2 hr. Lectures relate to standard clinical procedures and to laboratory instruction in direct and indirect cast gold restorations.
348. *Operative Dentistry*. S. 1 hr. Cavity medications, biological reactions to restorative materials and techniques, bur technology, and clinical variations of cavity form and treatment. Treatment planning procedure is reviewed and examined.
358. *Operative Dentistry*. II. 1 hr. More complex and advanced techniques for clinical practice with emphasis on new developments throughout the scope of operative dentistry.
383. *Operative Dentistry*. Yr. and S. 2-8 hr. Instruction in the clinic setting includes comprehensive diagnosis and treatment planning, computer assisted records, plaque control, caries control, and single tooth restorations. Sufficient variety and depth of experience occurs to obtain competence for independent practice of operative dentistry.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Oral Diagnosis and Radiology

Professors Graham (*Chairperson*), Bowers, Pifer, and H. Smith; Associate Professor Fotos; Assistant Professor Razmus.

303. *Oral Diagnostic Techniques*. II. 2 hr. Lectures and laboratory exercises introduce and stress fundamental principles of oral diagnosis including patient health history and clinical examination methods. Intraoral radiography. General approach to treatment planning for comprehensive health care.
323. *Clinic Orientation*. S. 1 hr. Series of specially arranged lectures, demonstrations, and clinical exercises to orient student to clinical procedures in the clinical disciplines.
327. *Oral Radiology*. I. 1 hr. The physical and biological phenomena associated with x-radiation. Intraoral and extraoral techniques presented and instruction in interpretation of roentgenograms, with special emphasis relative to oral diagnosis.
337. *Oral Diagnosis*. II. 1 hr. Didactic instruction with further application of diagnosis procedures presented in Dent. 303, extended to include special examination procedures and technics applicable to evaluating clinical problems.

387. *Clinical Oral Diagnosis*. Yr. and S. 1-3 hr. PR: Consent. Clinical application of principles presented in Dent. 303 and 337, providing opportunities for observation and analysis of clinical problems.
396. *Clinical Oral Radiology*. Yr. and S. 1-3 hr. Clinical application of principles presented in Dent. 303 and 327 with additional instruction in techniques and interpretation of radiographs with special emphasis to role played in oral diagnosis.
397. *Special Topics. (Fourth Year.)* I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Oral Pathology

Professor Bouquot (Chairperson) and Associate Professor Keyes.

328. *General Pathology*. (For dental and graduate students). II. 5 hr. PR: Consent. The broad spectrum of human diseases is studied at the clinical, physiological, and biochemical levels.
338. *Oral Pathology*. (For dental students.) II. and S. 3 hr. PR: Consent; Path. 328. Application of knowledge gained in general pathology to study specific diseases affecting the oral cavity.
353. *Oral Pathology*. (For dental students.) I. 2 hr. PR: Consent; Dent. 338. Continuation of Dent. 338.
355. *Clinico-Pathologic Correlation Conference*. (For dental students.) II. 1 hr. PR: Consent; Dent. 338, 353. Interesting oral lesions are demonstrated clinically, radiographically, and histologically. Diagnosis is established and treatment discussed by faculty and students.
382. *Advanced Oral Histopathology*. (For dental and graduate students, residents, and interns.) I and II. 1 hr. PR: Consent; Dent. 338, 353. An elective seminar stressing the significant microscopic features and diagnosis of various oral lesions.
397. *Special Topics. (Fourth Year.)* I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.
401. *Special Studies in Oral Pathology*. (For dental and graduate students, residents, and interns.) I. 1-3 hr. PR: Consent. Advanced study of local or systemic disease processes affecting oral structures through seminars, assignment of specific topics, or research activities.

Oral and Maxillofacial Surgery

Professor Emeritus Campbell; Professor Graves (Chairperson); Assistant Professor Lattanzi; Clinical Professors Davidson and Poindexter; Clinical Associate Professors Fogarty and Oliverio; Clinical Assistant Professors Doran, Douglas, Farrar, John, King, Linkous, Salzer, Syner, and Wine; Clinical Instructor Lindsay.

300. *Anesthesiology*. II and S. 1 hr. Lectures on local anesthesia, including types, modes of action, indications, and contraindications for use. Premedication, toxic effects, and technics of administration are discussed.
339. *Oral Surgery*. II. 1 hr. Didactic instruction in basic surgical principles as applied to the extraction of teeth and dentoalveolar surgery.
359. *Oral Surgery*. I and II. 2 hr. PR: Consent. Didactic instruction in patient evaluation, complicated exodontia, preprosthetic surgery, diagnosis, surgical and adjunctive treatment of disease, injuries, and defects of human jaws and associated structures.
364. *Pain and Anxiety Control*. I. 1 hr. PR: Consent. Instruction in the psychology, physiology, and clinical techniques of controlling pain and anxiety in the dental patient.

384. *Oral Surgery*. Yr. and S. 1-3 hr. PR: Consent. Clinical instruction in outpatient and inpatient oral surgery necessary to provide comprehensive care for the dental patient.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.
400. *Advanced Oral Surgery*. I, II, S. 1-12 hr. PR: Consent. Advanced study of therapeutics, hospital protocol, and surgical aspects of oral surgery involving lectures, seminars, demonstrations, and clinical applications.

Orthodontics

Associate Professors Bernard (Chairperson) and Dempsey; Assistant Professors Kitchin, Martin, Valentine, and Wilfong.

345. *Principles of Orthodontics*. II. 1 hr. Facial growth and development, the development of dental occlusion, and etiology and classification of malocclusions.
346. *Orthodontic Technics*. S. 1 hr. Technical instruction in taking diagnostic records and constructing basic orthodontic appliances.
365. *Orthodontics*. II. 1 hr. Introduction to clinical orthodontics; lectures on case analysis, treatment planning, and clinical procedures involved in interceptive, preventive, and adjunctive treatment of malocclusions.
385. *Orthodontics*. Yr. and S. 1-3 hr. Clinical management of selected malocclusion problems.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Pediatric Dentistry

Professor Fenton; Assistant Professors Gwynn and Holmes; Instructors Brannon and Koster.

319. *Pediatric Dentistry*. II. 1 hr. PR: Consent. Normal growth and development presented from physical, intellectual, psychological, and oral perspectives. Behavior of children in dental environment reviewed and strategies for management examined.
335. *Pediatric Dentistry*. I and II. 2 hr. PR: Consent. Didactic instruction foundational to the dental care to children presented in the following modules of instruction: oral diagnosis/treatment planning/case presentation, prevention, restorative dentistry, pulpal therapy, management of the developing occlusion and trauma to the dentition and oral structures.
361. *Pediatric Dentistry*. I. 1 hr. PR: Consent. Continued didactic instruction in dentistry for the child patient with the following learning packages programmed: abnormal dental development, oral habits, and adolescent dentistry.
366. *Developmentally/Medically Compromised Child*. I, II. 2 hr. PR: Consent. Didactic instruction in dentistry for the developmentally disabled and/or medically compromised child.
386. *Pediatric Dentistry*. I, II, S. 1-5 hr. PR: Consent. Instruction in the clinical setting with the goal of developing the psychomotor skills and judgment necessary to provide comprehensive care for the child patient.
388. *Pediatric Dentistry*. I, II, S. 1 hr. PR: Consent. Clinic experience in providing comprehensive dental care for the developmentally disabled and medically compromised child.
397. *Special Topics* (Fourth Year). I and II. 1-3 hr. PR: Consent. Provides didactic and clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Periodontics

Professor Morrison (*Chairperson*); Associate Professors Crout, Hart, Hornbrook, Rodeffer, and Jagannathan; Clinical Associate Professor Wanker; Clinical Assistant Professors Reed and Miley; Adjunct Associate Professor Murphy.

- 311. *Periodontics*. S. 1 hr. Introduction to periodontal diseases, their diagnosis and treatment. Laboratory instruction is included.
- 315. *Periodontics*. II. 2 hr. Study of professional communication and introduction to the theory and practice of preventive dentistry.
- 332. *Periodontics*. II. 1 hr. Lectures in the advanced theory and practice of preventive dentistry with emphasis on nutrition.
- 340. *Periodontics*. I. 1 hr. Intermediate didactic instruction in periodontal therapy including basic surgery and post-operative care.
- 342. *Periodontics*. I. 1 hr. PR: Consent. Clinical introduction to the practice of preventive dentistry.
- 363. *Periodontics*. Yr. 2 hr. Advanced didactic instruction in periodontal therapy including special surgical procedures.
- 377. *Periodontics*. Yr. and S. 1-4 hr. Clinical experience in the diagnosis and treatment of periodontal diseases.
- 397. *Special Topics*. (*Fourth Year*.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Fixed Prosthodontics

Professor Emeritus Adams; Professors Bianco (*Chairperson*), Connor, Kwiatkowski, N. Smith, and Tucker; Clinical Assistant Professor W. Taylor.

- 314. *Fixed Prosthodontics*. S. 1 hr. Preclinical lectures and laboratory exercises in which first-year students are introduced to the technics of preparing and restoring teeth with crown restorations.
- 336. *Fixed Prosthodontics*. Yr. 6 hr. PR: Consent. Lectures and laboratory exercises involving principles and technics of crown and bridge prosthodontics. Topics include types of dental bridges, their indications, and contraindications.
- 357. *Fixed Prosthodontics*. Yr. 2 hr. PR: Consent. Lectures concerned with clinical practice; diagnosis, treatment planning, treatment procedures, ceramics, esthetics, and occlusion.
- 389. *Fixed Prosthodontics*. Yr. and S. 1-6 hr. PR: Consent. Clinical application of the theory and practice of crown and bridge dentistry.
- 397. *Special Topics*. (*Fourth Year*.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Maxillofacial Prosthodontics

Professors Bianco (*Chairperson*) and Kluth.

- 397. *Special Topics*. (*Fourth Year*.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Removable Prosthodontics

Professor Bianco (*Chairperson*); Associate Professors Harper and Roth; Assistant Professors Beaumont, Camele, and Stewart; Instructor Price.

- 313. *Removable Prosthodontics*. I. 3 hr. Lectures and laboratory practice in biomechanical requirements of the edentulous patient.

316. *Removable Prosthodontics*. S. 1 hr. Lectures and laboratory practice in maxil-lomandibular relationships lomandibular and occlusion.
317. *Removable Prosthodontics*. II. 1 hr. PR: Consent. A lecture course providing an introduction to removable partial denture prosthetics.
334. *Removable Prosthodontics*. Yr. 3 hr. Didactic and laboratory practice for treatment of the partially edentulous patients, and introduction to clinical complete denture prosthodontics.
341. *Removable Prosthodontics*. S. 2 hr. Clinical demonstrations correlating the didactic and laboratory practices with the actual treatment of a removable prosthodontic patient.
350. *Removable Prosthodontics*. Yr. 2 hr. Lectures concerned with clinical practice of complete and partial removable prostheses.
376. *Removable Prosthodontics*. Yr. and S. 2-6 hr. Continued application of the theory and practice of removable prosthodontics.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowl-edge and/or skills in dental topics of special interest. As arranged.

Advanced Education Programs

The School of Dentistry offers advanced education programs. The Department of Endodontics and the Department of Orthodontics offer programs of advanced study leading to the degrees of Master of Science (M.S.). Programs leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees are available in the basic sciences of Anatomy, Microbiology, Biochemistry, Pharmacology and Toxicology, and Physiology. The Department of Oral and Maxillofacial Surgery offers one four-year internship and residency. Seven general practice residencies also are offered by the School of Dentistry. Continuing education courses are offered throughout the year. Detailed information concerning admission requirements, courses of study, etc., in these programs may be obtained from the Office of the Associate Dean for Postdoctoral Programs, WVU School of Dentistry, Morgantown, WV 26506.

Endodontic Program

Master of Science (M.S.)

The School of Dentistry and its Department of Endodontics offer a program of advanced study and clinical training leading to the degree of Master of Science (M.S.) The program requires a minimum of 24 months (two academic years and two summer sessions) of full-time residency in the School of Dentistry. It is designed to qualify dentists for careers in endodontic clinical practice, teaching, and research.

Inquiries concerning this program should be directed to the Office of the Associate Dean for Postdoctoral Programs. Applicants will be processed in the School of Dentistry. Applicants approved for admission to the program will be notified soon after January 15.

Requirements for Admission to the Endodontic Program

1. Graduation from an accredited school of dentistry.
2. Evidence of scholastic and clinical achievement that would indicate the applicant's ability to progress in a program of this nature.

3. Each applicant must file with the Department of Endodontics all information requested in the departmental application form.

Requirements for Degree of Master of Science

1. Fulfillment of general WVU graduate study requirements.
2. Twenty-four months (two academic years and two summer sessions) of consecutive residency at the WVU School of Dentistry.
3. An approved master's thesis based on original research completed during the period of residency in an area related to endodontics.
4. Must satisfactorily pass a final oral examination.
5. Must complete a minimum of 57 credit hours. These include 32 hours of endodontic courses, a minimum of 18 hours of selected basic sciences subjects, and a thesis (7 hours).
6. Must have demonstrated satisfactory clinical competency in the student's field.
7. Must have maintained a grade level commensurate with graduate education.

Dentistry (Dent.)

400. *Advanced Oral Surgery*. I, II, S. 1-12 hr. PR: Consent. Advanced study of therapeutics, hospital protocol, and surgical aspects of oral surgery involving lectures, seminars, demonstrations, and clinical applications.

Endodontics (Dent.)

390. *Clinical Endodontics*. I, II, S. 1-5 hr. PR: Graduate of an accredited dental school and admission to the Advanced Education Program in Endodontics or consent. (May be repeated for credit.) Clinical endodontic practice in the areas of: ordinary endodontic cases, complex endodontic cases, hemisection, root amputation, replantation, transplantation, endodontic implantation, vital pulp therapy, apexification, and bleaching.
391. *Endodontic Theory*. I, II, S. 2 hr. PR: Consent. Provides seminar discussions in the topics of: basic endodontic techniques, advanced endodontic techniques, endodontic literature review, case presentation, and advanced endodontic theory.
490. *Endodontic Teaching*. S. 2 hr. PR: Consent. Selected teaching experiences including lecture, clinical, and laboratory teaching of undergraduate endodontic courses.
497. *Endodontic Research*. I, II, S. 2-3 hr. PR: Consent. Students will prepare a research protocol, conduct experimental research, and prepare a thesis of original endodontic research.

Microbiology (M. Bio.)

317. *Special Problems in Microbiology*. I, II, S. 1-7 hr. per sem. with a total of 24 hr. available. Pathogenic microorganisms, including immunology and antimicrobial agents.

Pathology (Path.)

382. *Oral Histopathology*. (For graduate and dental students.) I, II. 1-2 hr. PR: Consent. Advanced study of the microscopic aspects of oral and paraoral disease through weekly seminars with emphasis placed on diagnosis.
401. *Special Studies in Oral Pathology*. I, II. 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.

Pharmacology and Toxicology (Pcol.)

360. *Pharmacology*. I. 4 hr. PR: Consent. Lecture and laboratory on pharmacologic actions and therapeutic uses of drugs.

Statistics (Stat.)

311. *Statistical Methods* 1. I, II. 3 hr. PR: Math. 3. Statistical models, distributions, probability, random variables, tests of hypotheses, confidence intervals, regression, correlation, transformations, F and Chi-square distributions, analysis of variance and multiple comparisons. (Equiv. to Ed. P. 311 and Psych. 311.)

Orthodontic Program

Master of Science (M.S.)

The School of Dentistry and its Department of Orthodontics offer a program of advanced study and clinical training leading to the degree of Master of Science (M.S.) The program requires a minimum of 24 months (two academic years and two summers) of full-time residency in the School of Dentistry. It is designed to qualify dentists for careers in orthodontic clinical practice, teaching, and research.

Inquiries concerning this program should be directed to the Office of the Associate Dean for Postdoctoral Programs. Those applicants approved for admission to the program will be notified soon after January 15.

Requirements for Admission to the Orthodontic Program

1. Graduation from an accredited dental school.
2. Evidence of scholastic and clinical achievement that would indicate the applicant's ability to progress in a program of this nature. Generally, a minimum grade-point average of 2.75 is required for admission.
3. Each applicant must file with the department all information requested in the department application form.

Requirements for Degree of Master of Science

1. Fulfillment of general WVU graduate study requirements.
2. Twenty-four months (two academic years and two summers) of consecutive residency at the School of Dentistry.
3. An approved master's thesis based on original research completed during the period of residency in an area related to orthodontics.
4. Must satisfactorily pass a final oral examination.
5. Must complete a minimum of 50 credit hours. These include 35 hours of orthodontic courses, a minimum of 9 hours of selected basic sciences subjects, a minimum of 6 hours of elective allied subjects, and a thesis (6 hours).
6. Must have demonstrated satisfactory clinical competence in the student's field.
7. Must have maintained a grade level commensurate with graduate education.

Anatomy (Anat.)

315. *Advanced Applied Anatomy*. I. 3 hr. PR: Consent. Advanced descriptive and functional anatomy of the head and neck, especially as it relates to orthodontics. The course stresses the oral-facial region, the skullbase, and the architecture of the skull in relation to masticatory forces.

316. *Craniofacial Growth and Maturation*. II. 3 hr. PR: Anat. 315 or consent. The current concepts of craniofacial growth and maturation are presented and integrated for application to clinical problems.

Orthodontics (Dent.)

416. *Biomechanics*. I, II, S. 2 hr. PR: Consent. Design and function of the teeth and their surrounding structures, and response of these tissues to orthodontic procedures.
417. *Orthodontic Technique*. I, II, S. 2 hr. PR: Consent. Laboratory course in techniques related to fabrication and manipulation of orthodontic appliances.
418. *Orthodontic Materials*. I, II, S. 1 hr. PR: Consent. Physical properties of materials used in orthodontic appliances.
419. *Orthodontic Diagnosis*. I, II, S. 1-3 hr. PR: Consent. Seminar-type class on technique of patient examination, acquiring diagnostic records, and analyzing and correlating this information to the treatment of clinical problems.
420. *Cephalometrics*. S. 1-3 hr. PR: Consent. Use of radiographic cephalometry in studying growth of the human face, analysis of dentofacial malformations, and evaluation of orthodontic treatment.
421. *Orthodontic Mechanics*. I, II, S. 1-4 hr. PR: Dent. 416, 417. Seminar and laboratory course on basic orthodontic mechanical properties.
422. *Advanced Orthodontic Mechanics*. I, II, S. 1 hr. PR: Dent. 421. Continuation of Dent. 421 involving more difficult type cases and introducing more sophisticated appliance therapy.
423. *Growth and Development*. II. 1-5 hr. PR: Consent. Seminar-type course on normal and abnormal growth of the human head and its application to orthodontics.
425. *Orthodontic Seminar*. I, II, S. 1-8 hr. PR: Consent. Discussions involving all branches of dental science, with special emphasis on the orthodontic interest. Assigned topics and articles in the literature discussed.
426. *Orthodontic Clinic*. I, II, S. 1-12 hr. PR: Dent. 416, 417. Clinical treatment of selected patients.
497. *Research*. I, II, S. 1-15 hr.

Pathology (Path.)

397. *Pediatric Oral Pathology*. I. 2 hr. PR: Consent. Lecture and seminar course on inherited diseases and other pathologic situations of oral cavity and face specific for pediatric age group.

Statistics (Stat.)

311. *Statistical Methods* 1. I, II. 3 hr. PR: Math. 3. Statistical models, distributions, probability, random variables, tests of hypotheses, confidence intervals, regression, correlation, transformations, F and Chi-square distributions, analysis of variance and multiple comparisons. (Equiv. to Ed. P. 311 and Psych. 311.)

Dental Hygiene Program

The Dental Hygiene Program is a department of the School of Dentistry. The four-year dental hygiene curriculum combines the advantages of both a liberal arts and a professional education. This curriculum format has departed from the conventional, but there is a definite conviction that the inclusion of many disciplines provides greater strength to the program. The educational objectives of the Dental Hygiene Program are:

To prepare individuals to perform to the level of competency specified by the faculty, the state boards of dental examiners, and employers of those oral

health services legally approved for a dental hygienist in any state, district, or territory of the United States. Presently, these services include: observation, recording, prevention, treatment, education, and communication.

To prepare individuals capable of performing the clinical skills delegated to any dental auxiliary (excluding the dental laboratory technician).

To prepare dental hygienists to teach clinical skills and to present didactic information in dental auxiliary education programs.

To prepare individuals capable of performing coordinative and administrative functions in public health and community related areas.

To prepare individuals for the dental hygiene profession who have a keen sense of social awareness and professional responsibility.

To prepare dental hygienists to continue their professional development past graduation through formal training, self-study, and independent thought.

To prepare individuals who have the capability to understand and adapt to new developments and changes in the scientific, sociologic, and practical factors pertaining to health.

To provide the educational foundation for higher education.

Upon completion of all requirements and with the recommendation of the School of Dentistry, the candidate is awarded the degree of Bachelor of Science in Dental Hygiene (B.S.)

The Dental Hygiene curriculum is structured in accordance with the standards specified for a Dental Hygiene Program by the Commission on Accreditation of the American Dental Association. The program has been fully accredited by this organization since 1965.

Admission—Integrated Program

Students enter dental hygiene as freshmen, and the general admission policies of West Virginia University are followed. The applicant must be a graduate of an accredited high school or preparatory school and have completed 1 unit of plane geometry, biology, and chemistry, 2 units of algebra, and 4 units of English. Good grades are expected, and applicants should rank in the upper one-third of their graduating class. Particular attention is given to academic achievement in science courses.

All students are required to take either the American College Testing Program (ACT) tests or the Scholastic Aptitude Test (SAT) and have the report of scores sent to WVU prior to the admission decision. Students admitted on the basis of SAT scores must submit results of the ACT by the end of the first semester of their freshman year.

In addition to a special application form for dental hygiene, each candidate for admission is supplied with three standardized reference forms. Each applicant is requested to have one dental hygienist and two other individuals return the forms directly to the Department of Dental Hygiene.

The personal qualifications, scholastic record, test scores, and recommendation of each applicant are reviewed by the Dental Hygiene Admissions Committee. After reviewing these credentials, the committee will request an interview with those applicants who are most qualified. The applicant will be notified by letter of the date, time, and place of the interview.

The competition for entrance into dental hygiene is extremely keen. *Nonresidents should recognize that preference is given to West Virginia residents. Only those nonresidents with the highest qualifications will be considered.*

For application materials the applicant should write to the Department of Dental Hygiene, West Virginia University, Morgantown, WV 26506; or the Office of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. Applicants should apply and complete aptitude tests as early as possible in the year preceding the year admission is desired. Applications are available in September.

Promotion

At the end of each semester, the status of each dental hygiene student is reviewed by the Dental Hygiene Committee on Academic Standards. This committee then makes recommendations to the Dean. Final disposition in each case is the prerogative of the Dean and the Chairperson of Dental Hygiene.

Unconditional promotion normally depends upon fulfillment of all course requirements and the attainment of both a minimum cumulative grade-point average and a minimum science-dental hygiene grade-point average. These minimum grade-point averages are: a 1.50 for promotion to the second year; a 1.75 for promotion to the third year; a 2.0 for promotion to the fourth year; and a 2.0 for graduation.

The courses (or equivalents) utilized to calculate the science-dental hygiene grade-point average are: Anatomy 101; Biology 2; Chemistry 11, 12; Dentistry 300; Microbiology 26; Pathology 128, 129; Pharmacology and Toxicology 160; Physiology 141; and *all* courses in Dental Hygiene (Dnt. Hy. 1-220).

Students who do not qualify to be promoted unconditionally may be placed on probation or may be suspended from further studies in the Department of Dental Hygiene. Probationary status implies that the student will be allowed to make up deficiencies or be given an opportunity to repeat a year.

If a student is promoted on probation, the student must reach the required minimum standards specified above. Students on probation who do not obtain these standards will be reevaluated by the committee.

The Department of Dental Hygiene reserves the right to suspend or require remedial work of any student who does not perform at a level satisfactory for patient care.

Admission—Degree Completion Program

Registered Dental Hygienist applicants are admitted directly to the Department of Dental Hygiene on both a full-time and part-time basis. To be eligible for enrollment the applicant must be a graduate of an accredited certificate or associate degree program in dental hygiene. Lower-division credit is established by the transfer of hours (see "Curriculum Requirements"). Acceptance and placement in the program are dependent upon the individual's academic record and upon the number of spaces available in the program.

Application forms may be obtained by mail or in person from the Office of Admissions and Records, West Virginia University Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301. An application fee of \$10.00, payable to West Virginia University, must accompany the completed application.

Credentials for admission must include complete records of all previous college or university work. The student must request the registrar of each school he/she has attended to forward one official transcript directly to the

Office of Admissions and Records, WVU Medical Center. In addition, catalog descriptions of each course taken must accompany the application. If the applicant is still in school, these should include the program of studies in which the applicant is currently registered. The University does not undertake the responsibility of collecting these credentials.

Applications for the Degree Completion Program must be filed by April 15 of the year in which the student desires admission. One class will be admitted each fall semester, which begins in late August. Applicants currently enrolled in the last year of a dental hygiene program are urged to apply for admission.

Admission Requirements

1. Completion of an accredited certificate/associate degree program in dental hygiene.
2. A minimum overall grade-point average of 2.5 on all college work attempted. Applicants whose grade-point average falls below 2.5 may petition in writing to the Dental Hygiene Admissions Committee for special consideration.
3. Successful completion of the Dental Hygiene National Board Examination. The score achieved on the examination must be submitted.
4. Two or more letters of reference. One letter from the Director and one from the clinical supervisor of the dental hygiene program attended are required. If applicable, a letter from at least one employer is recommended.
5. A personal interview with the Admissions Committee may be required before a final decision is rendered on a candidate.

Professional Organizations

The American Dental Hygienists' Association is the official organization representing the dental hygiene profession. Student dental hygienists have the opportunity of student membership in the association.

Sigma Phi Alpha is the national dental hygiene honorary society. Student membership is limited to 10 percent of each graduating class. Candidates are selected on the basis of scholarship, character, and potential as a dental hygienist.

American Association of Dental Schools. This association of dental educational institutions and faculties has as its primary purpose to promote and improve dental education. Dental hygiene students may join as student members.

West Virginia University School of Dentistry Alumni Association. Graduates of the Department of Dental Hygiene may join and participate in all activities of the Alumni Association.

Courses of Instruction in Dental Hygiene

Professor Komives (*Chairwoman*); Associate Professors DeBiase, Graves, Krouse, and Sherrill; Assistant Professor Pfeifer; Instructor Pyle; Clinical Instructor Mullins; Adjunct Professor Ramsey; School of Dentistry faculty.

(Courses included in the Dental Hygiene curriculum, but not listed here, will be found either under other department listings in this *Catalog* or the *WVU Undergraduate Catalog*.)

DENTAL HYGIENE CURRICULUM PLAN

First Year				Second Year			
First Sem.	Hr.	Second Sem.	Hr.	First Sem.	Hr.	Second Sem.	Hr.
Engl. 1	3	Chem. 12	4	Anat. 101	4	Physi. 141	4
Core A		Dnt. Hy. 2	3	Dnt. Hy. 105	2	Dnt. Hy. 90	3
(Comm. 11/12)	3	Dnt. Hy. 85	3	HN&F 71	3	Pcol. 160	3
Biol. 1	4	Core A		Ed.P. 105	3	Dnt. Hy. 120	1
Chem. 11	4	(Elective)	3	M. Bio. 26	4	Dnt. Hy. 125	4
Dnt. Hy. 1	2	Core B		Core B		Engl. 2	3
Dnt. Hy. 66	1	(Soc.&A. 1)	3	(Psych. 1)	3		
	17		16		19		18

Third Year				Fourth Year			
First Sem.	Hr.	Second Sem.	Hr.	First Sem.	Hr.	Second Sem.	Hr.
Dnt. Hy. 168	1	Dnt. Hy. 169	1	Dnt. Hy. 202	2	Dnt. Hy. 206	2-4
Core A		Dnt. Hy. 174	2	Dnt. Hy. 204	1	Electives	
(Elective)	3	Core B	3	Core B	3	Maximum	14
Path. 128	2	(Psych. 141 or 164)		(Upper-Division		Minimum	13
Dnt. Hy. 152	2	Core A		Soc.&A. or			
Anes. 300	1	(Elective)	3	or Econ. 51)			
Dnt. Hy. 172	2	Dnt. Hy. 150	2	Electives			
Dnt. Hy. 160	3	Dnt. Hy. 161	2	Maximum	7		
Dnt. Hy. 162	2	Dnt. Hy. 164	2	Minimum	4		
Dnt. Hy. 163	2	Path. 129	3				
	18		18		15-18		16-19

Dental Hygiene (Dnt. Hy.)

1. *Orientation to Dental Hygiene.* I. 2 hr. PR: Enrollment in dental hygiene. Historical development of dental hygiene with emphasis on the philosophy, responsibilities, and current role of the dental hygienist as a member of the dental health team.
2. *Introduction to the Dental Specialties.* II. 3 hr. PR: Dnt. Hy. 1 or consent. Survey of functions and responsibilities of each of the dental specialties. Emphasis on the role of the dental assistant and dental hygienist in each type of practice.
66. *Technical Expression and Dental Literature.* I. 1 hr. PR: Enrollment in dental hygiene. Preparation and uses of professional communication.
85. *Oral Anatomy.* II. 3 hr. PR: Enrollment in dental hygiene. Human teeth and the anatomy of the head and neck with emphasis on structures in or related to the oral cavity.
90. *Oral Histology.* II. 3 hr. PR: Enrollment in dental hygiene. Histological structures of the teeth and tissues of the oral cavity and the morphological development of these structures.
105. *The Theory and Practice of Prevention.* I. 2 hr. PR: Enrollment in dental hygiene. Philosophy and techniques of preventive dentistry.
120. *Dental Nursing Technics.* II. 1 hr. PR: Enrollment in dental hygiene. Emergency first aid and principles of nursing applicable to the dental office.
125. *Dental Hygiene Technics.* II. 4 hr. PR: Enrollment in dental hygiene. Fundamental principles and technics of dental hygiene are presented through lectures, laboratory, and clinical participation.
150. *Dental Health Education.* II. 2 hr. PR: Enrollment in dental hygiene. Lectures, demonstrations, and field experiences on the methods, materials, and resources used in teaching dental health to various population groups.

152. *Dental Radiology*. I. 2 hr. PR: Enrollment in dental hygiene. Basic principles and procedures in oral radiology technics and interpretation.
160. *Dental Materials*. I. 3 hr. PR: Enrollment in dental hygiene. Lecture and laboratory covering the science and manipulation of dental materials. (2 hr. lec., 1 hr. lab.)
161. *Expanded Functions*. II. 2 hr. PR: Dnt. Hy. 160. Lecture and laboratory covering specialty topics in dentistry for expanded functions, four handed dental assisting, and the placing and carving of amalgam and resin restorations in dentoforn teeth. (1 hr. lec., 1 hr. lab.)
162. *Dental Hygiene Clinical Methods*. I. 2 hr. PR: Dnt. Hy. 125. Principles of oral prophylaxis, instruction in the care of special patients, use of diagnostic aids, and nutritional counseling. (2 hr. lec.)
163. *Clinical Dental Hygiene 1*. I. 2 hr. PR: Dnt. Hy. 125. Clinical application of dental hygiene principles and techniques. (2 hr. lab.)
164. *Clinical Dental Hygiene 2*. II. 2 hr. PR: Dnt. Hy. 162, 163. Clinical applicator of dental hygiene principles and techniques. (2 hr. lab.)
168. *Periodontics*. I. 1 hr. PR: Enrollment in dental hygiene. Tissues of the periodontium, histopathology of periodontal disease with emphasis on etiology, examinations, diagnosis, treatment, and prevention within the scope of dental hygiene.
169. *Periodontics*. II. 1 hr. PR: Dnt. Hy. 168. A sequential course to Dnt. Hy. 168. Includes recognition and treatment of periodontal disease with emphasis on occlusion, surgical procedures, and post-operative care of patients.
172. *Public Health*. I. 2 hr. PR: Enrollment in dental hygiene. Theory and practice of preventive dentistry and community health.
174. *Dental Hygiene Teaching Methods*. II. 2 hr. PR: Enrollment in dental hygiene. Concepts and principles of administration, curriculum, and clinical teaching unique to dental auxiliary education. Emphasis on overall role of the dental hygiene educator.
202. *Dental Hygiene Practice*. I. 2 hr. PR: Senior enrollment in dental hygiene. Scope of practice for the dental hygienist including ethical and legal considerations. Public and professional relations as well as practice management are discussed.
204. *Advanced Dental Hygiene Methods*. I. 1 hr. PR: Senior enrollment in dental hygiene. Principles of advanced clinical dental hygiene and practice in non-traditional settings. (1 hr. lec.)
205. *Advanced Clinical Dental Hygiene 1*. I. 5 hr. PR: Senior enrollment in dental hygiene. Clinical experience in traditional and expanded duties; pre- and post-operative care of surgical patients, and radiology. (5 hr. clinic.)
206. *Advanced Clinical Dental Hygiene 2*. II. 3-4 hr. PR: Senior enrollment in dental hygiene. Continuation of clinical practice experience in dental hygiene procedures. (3-4 hr. clinic.)
220. *Special Topics in Dental Hygiene*. I, II. 1-22 hr. PR: Senior enrollment in dental hygiene. Special topics relevant to dental hygiene. A variety of sections offer elective opportunities to dental hygiene majors.

School of Medicine

The School of Medicine began as the College of Medicine in 1902. For ten years this program was affiliated with the College of Physicians and Surgeons of Baltimore, Md. In 1912 the School of Medicine had its formal beginning as an independent school offering the first two years of the medical curriculum. The School of Medicine moved from the Downtown Campus to the Medical Center in 1957 and inaugurated a four-year program in 1960. This coincided with the opening of University Hospital. In 1961, the first M.D. degrees were awarded to 15 students.

In 1945 the School of Medicine established a curriculum in Medical Technology leading to a degree of bachelor of science. The first graduates were awarded a combined degree by the College of Arts and Sciences and the School of Medicine in 1947. The Program of Medical Technology was established in the School of Medicine in 1961. The Division of Physical Therapy was established and accepted its first class of 16 students in 1970. The division offers the final two years of a baccalaureate program leading to a degree in physical therapy.

West Virginia University Medical Center—Charleston Division was established in October, 1972, with the affiliation of WVU and the Charleston Area Medical Center. The Charleston Division offers programs for third and fourth-year medical students in a variety of required and elective courses.

West Virginia University School of Medicine—Wheeling Division was established in 1974. This program is available for many elective opportunities for students in the fourth year.

Committees (Chairpersons)

Academic Standards: Gunter N. Franz.

Biomedical Research Support: Roy L. Butcher.

Dean's Committee to Clarksburg VA Hospital: Richard A. DeVaul.

Curriculum Committee: Richard M. Iammarino.

Executive Faculty: Richard A. DeVaul.

Educational Advisory: Richard A. DeVaul.

Faculty Promotion: Michael G. Mawhinney.

Medical School-Hospital Liaison to Student Body: Richard A. DeVaul.

Student Admissions: David S. Hall.

E. J. Van Liere Student Research Convocation: Wilbert E. Gladfelter.

Outstanding Teachers: Richard W. Eller.

Continuing Medical Education: David Z. Morgan.

Admissions Committee for Medical Technology: Jean Holter.

Admissions Committee for Physical Therapy: Carolyn E. Barnes.

Degree

The degree of Doctor of Medicine (M.D.) is granted to students who have completed the prescribed curriculum and who have been recommended for the degree by the faculty of the School of Medicine.

It is to be understood that the following information applies only to students in the School of Medicine who are enrolled in the prescribed curriculum which culminates in the M.D. degree. All other students, undergraduates or graduates, enrolled in other programs in the School of Medicine are governed by the policies found elsewhere in the *Medical Center Catalog*.

Combined M.D.-Ph.D. Program

This should be considered only by students who have shown exceptional interest and promise. All of the admission requirements of the School of Medicine and the specific graduate program will apply. Specific course requirements and procedures for monitoring progress will be detailed by both programs.

Admissions

Because of the large number of applicants and limited openings available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants who have ties to the state of West Virginia will also be considered. Careful consideration is given to those personal qualifications which bear upon fitness of the applicants for the study and practice of the profession. No one specific factor is used to determine admission. Admission is dependent on a number of things, such as grade-point average, interview, letters of recommendation, MCAT scores, motivation, and interpersonal and communication skills. Any applicant who is refused admission or who fails to enroll after acceptance must re-apply in the regular manner if consideration for a subsequent year is desired.

When to Apply for Admission

Application for admission in August, 1987, should be made beginning June 1, upon completion of the 1985-86 school year. The latest date for filing an application is November 30, 1986. It is desirable for applicants to file early and to make certain that New Medical College Admission Test scores, current transcripts, and letters of recommendation are available to the Committee on Admissions.

College Credit Required

The applicant should present a broad general education including a major in some field, not necessarily a natural science. The Admissions Committee needs evidence of excellence of academic performance and steady progress toward a goal.

An excess of credit hours or higher degrees does little to offset the disadvantages of low grades in securing admission to the School of Medicine. The practice of repeating courses to raise the grade is discouraged. Applicants who have been subject to suspension from the West Virginia University or other medical schools can be admitted only in very exceptional cases and at the discretion of the Committee on Admissions.

The following courses are required for consideration of an application to Medical School.

English	6 semester hours or equiv.
Biological Sciences (with lab)	8 semester hours or equiv.
Inorganic Chemistry (with lab)	8 semester hours or equiv.
Organic Chemistry (with lab)	8 semester hours or equiv.
Physics (with lab)	8 semester hours or equiv.
Social or Behavioral Sciences	6 semester hours or equiv.

A strong quantitative background is recommended, including calculus.

A total of 90 semester hours of work, exclusive of Military Science (ROTC) and General Physical Education, is required.

It is recognized that applicants for medical school may have very diverse undergraduate backgrounds with a variety of majors. While many undergraduate courses, aside from the required prerequisites, might be beneficial in providing additional background for medical school, the choice of such courses should be determined by the academic strengths and weaknesses of the particular applicant.

Medical College Admission Test

The scores of the Medical College Admission Test (MCAT) are one of the factors used by the Admissions Committee in considering an applicant for admission. For this reason, it is strongly recommended that students take the test in the Spring before making application for admission. Delaying the test until Fall, even though all science courses may not have been completed, jeopardizes an applicant's opportunity since no final consideration is given until MCAT scores are obtained by the Admissions Committee. No applicant can be considered who delays taking the MCAT until Spring of the year of expected entry. Information concerning the time and place of the test can be obtained from your premedical adviser or committee or the Office of Admissions and Records. The Medical College Admission Test is required of all applicants, and it must have been taken within the past two years before applying.

Personal Interview

No applicant is admitted without an interview by the Committee on Admissions. Currently, all residents of West Virginia are granted an interview. Qualified nonresident applicants are interviewed at the discretion of the Committee on Admissions. The applicant is notified of the time and place of the interview. Interviews and consideration of applicants begin in September.

Conditions Following Acceptance

The accepted applicant is expected to meet all entrance requirements and satisfactorily complete all undergraduate work in progress. A satisfactory performance in the completion of such work is defined as one which is consistent with the student's previous academic record. Failure to do so may result in the withdrawal of the acceptance by the Committee on Admissions.

The student is to be aware that furnishing or causing to be furnished false or incorrect information for the purpose of the School of Medicine application constitutes grounds for disciplinary actions, including, but not limited to, expulsion or revocation of the acceptance.

Admission to Advanced Standing

Only in very exceptional circumstances may students be admitted to advanced standing positions. Any transfer ordinarily would be considered only at the end of the second year. The application must be received no later than May 15. Results of either Part I of the National Board of Medical Examiners or the Medical Science Knowledge Profile (MSKP) test must be available before an application can be finalized. In addition, the applicant must present certification of good standing in the school from which the applicant is transferring. An official transcript of all prior medical school work from all medical schools attended will be required.

Examinations and Evaluation of Student Progress

It is the policy of the School of Medicine that the several departments conduct examinations of various types from time to time to help in the overall evaluation of student progress. A Satisfactory (S) or Unsatisfactory (U) designation is formally recorded for each course. In addition, each department files in the Office of the Dean a narrative evaluation of the work of each student identifying strengths and weaknesses and suggesting remedial or corrective measures, if appropriate.

In addition to departmental examinations, which help serve as a basis for recording grades in individual courses, other examinations may be conducted at times for other purposes. At the end of the first year a comprehensive examination, designed on an interdepartmental basis, may be required as a test of readiness for promotion. National Board of Medical Examiners, Part I, examinations are given as part of the testing of achievement in individual disciplines and are incorporated in the final grade for that course. The student is encouraged to take the complete Part I examination as a candidate for National Board certification near the end of the second year. The Part II examination is required as a comprehensive test in clinical science.

The overall performance of the student on the National Boards will be taken into account by the Committee on Academic Standards when considering decisions regarding promotion, and by the faculty when making the official recommendation for granting degrees.

All states require that physicians be licensed to practice medicine. Satisfactory completion of all portions of the National Board of Medical Examiners examination is one mechanism by which a license may be obtained. Differing amounts of postgraduate medical education are required by various states before considering application for licensure. This should be determined on a state-by-state basis.

Promotions and Progress

The Committee on Academic Standards administers the promotions and dismissal rules. Exceptions may be made only on recommendation of the committee. The application of rules on dismissal is not automatically changed by removal of Incomplete (I) grades or by the repetition of courses in other medical schools.

1. The Committee on Academic Standards of the School of Medicine reviews the performance of each student in every course at the end of each academic period and makes recommendations to the Dean. If a student has been found to have an unsatisfactory performance in any of the required courses, dismissal from the school may be recommended. In selected circumstances, the committee may recommend remedial work or repetition of all or a portion of the curriculum.

Rarely, a student may be subject to remedial work or dismissal on recommendation of the Committee on Academic Standards to the Dean even though no Unsatisfactory (U) grade has been received in a required course. Such an unusual event would occur only if, in the opinion of the Committee, the student's overall performance does not meet the academic standards of the School of Medicine.

2. No student will be permitted to register for any work of the second or subsequent year until all courses for the year before have been completed successfully.

3. All courses and all classes at the School of Medicine are graded as Satisfactory (S) or Unsatisfactory (U) at the completion of the course in lieu of other letter grades. The S and U designation is accompanied by a narrative report of the student's progress and any factors requiring remedial work or counseling. The U shall be regarded as a failing grade and all University regulations regarding a failed course shall then apply.

4. Readmission of a dismissed student is the prerogative of the Committee on Admissions after careful review of the student's performance, including but not limited to, recommendations of the Committee on Academic Standards.

5. All nondisciplinary matters are governed by the concept of academic due process.

6. Upon concurrent recommendation of the Committee on Admissions, the Committee on Academic Standards, and the departments concerned, a limited number of students may be admitted to the School of Medicine to follow a special schedule reflecting the student's individual needs to complete requirements for the M.D. degree.

In view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of the University the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession. In all other matters regarding Academic Rights and Responsibilities of students, matters concerning promotions, disciplinary actions for failure to meet academic standards, and appeals procedures due process principles shall apply. For further information the reader is referred to "The Policy on Academic Standards" governing the M.D. degree program at West Virginia University School of Medicine which is available at the School of Medicine Office of Student Affairs.

Incomplete Courses

The grade of Incomplete (I) is given when the instructor believes the work is unavoidably incomplete or that a supplementary examination is justifiable. If a grade of I is not removed by satisfactory completion of the work before the end of the next semester in which the student is in residence, it becomes a failure unless special permission to postpone the work is obtained from the Committee on Academic Standards (University rule.) It is the responsibility of the student to consult the instructor about the means and schedule for making up incomplete courses.

Departure From Scheduled Work

Medical students must register for all prescribed courses for each semester except by special permission from the Committee on Academic Standards of the School of Medicine. This permission is not valid until it has been reported to the Assistant to the Director of Admissions and Records, Medical Center, for record. The Office of Student Affairs in the School of Medicine must also be notified.

Departure

Interruption of academic work must be approved by the Office of Student Affairs.

Honor Code

Students in the School of Medicine agree to abide by the provision of an honor code which requires ethical and moral standards of conduct in all situations. Each student is required to return a signed statement to the Office of Student Affairs, indicating the student has read and understands the student honor code of the West Virginia University School of Medicine which is available in the Student Affairs Office of the School of Medicine.

Immunizations

It is required that during the first semester of the first year all students must complete certain prescribed immunization and diagnostic procedures.

University Hospitals, Inc. and Outpatient Clinics

University Hospitals, Inc. and its outpatient clinics are dedicated to the education of students in the multiple disciplines of the health fields and to the advancement of knowledge in the sciences and arts concerned with health and illness.

The University Health Service (Student Health) is equipped to provide the majority of health care requirements free of charge to registered students. These facilities are open on a daily basis at the hours posted by University Health Service. Students needing health care are urged to consult with the University Health Service for health care needs. If a true emergency occurs or the University Health Service is not open, the student may be seen in the emergency room; however, additional charges may be incurred for this service as well as for diagnostic studies ordered.

All students who have a health problem which they feel may be causing difficulty with their academic progress are strongly advised to notify the Associate Dean for Student Affairs.

Curriculum Plan

First and Second Years

The plan of study is directed toward the principles and methodology of the medical basic sciences. However, the basic courses are designed so that the student begins to integrate concepts of patient care.

The student has the opportunity of an additional early exposure to patient-oriented instruction through the introduction to physical diagnosis and community medicine in the first term of the freshman year.

With the recognition that entering medical students have a wide variety of interests and backgrounds, elective opportunities are offered in the basic science years, beginning with the second term of the freshman year. The permissible elective courses or plans of study have broad limits and need not be confined to the Medical Center. The intention is to encourage responsible student initiative.

See Medicine I and Medicine II charts for representative schedules.

MEDICINE I

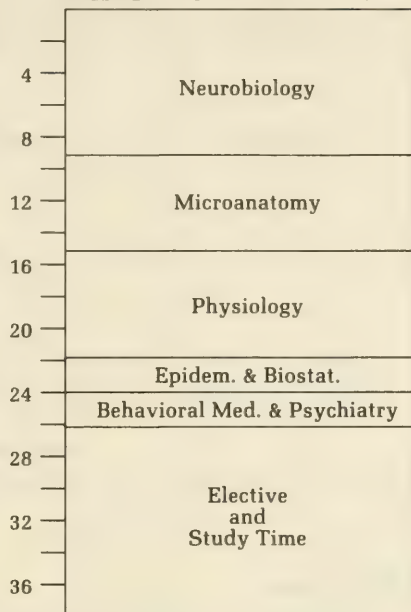
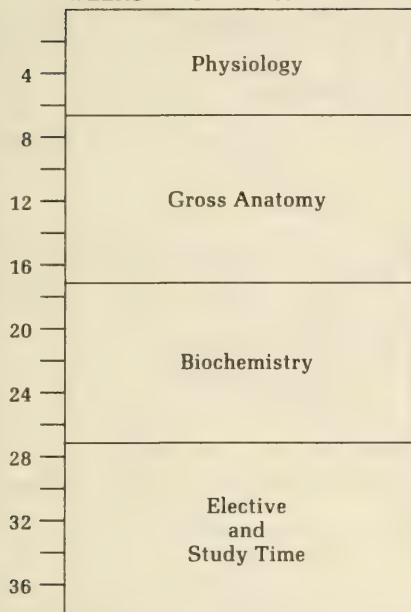
FIRST SEMESTER

WEEKS 5 10 15

SECOND SEMESTER

WEEKS 5 10 15

CONTACT HOURS PER WEEK



MEDICINE II

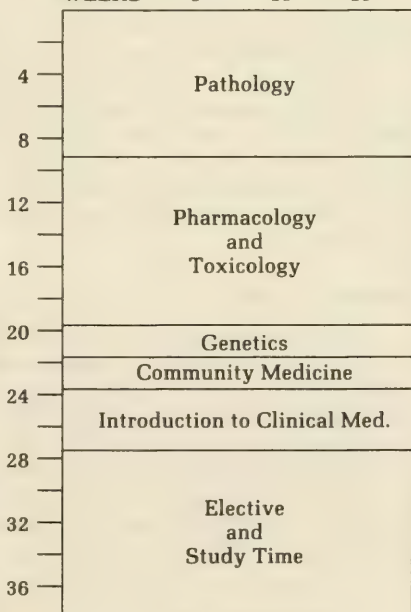
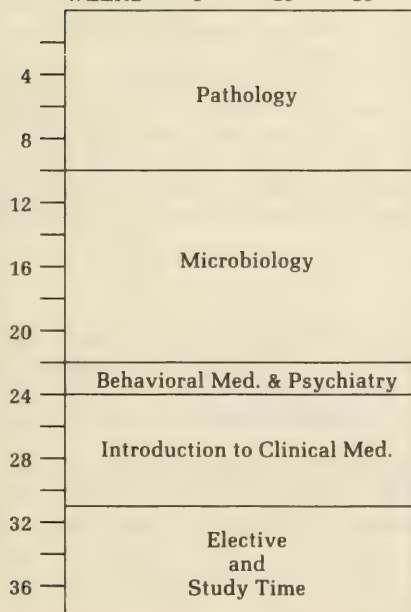
FIRST SEMESTER

WEEKS 5 10 15

SECOND SEMESTER

WEEKS 5 10 15

CONTACT HOURS PER WEEK



MEDICINE III

Clerkships

WEEKS

12	Medicine
12	Surgery
12	Behavioral Medicine and Psychiatry
	Obstetrics and Gynecology
12	Pediatrics
	Neurology, Pediatrics OPD, Acute Medicine
48	TOTAL

Third Year

A tightly-structured traditional third year gives the student a foundation in history-taking, examination, patient relations, laboratory aids, diagnosis, treatment, and use of the medical literature in the major clinical disciplines.

A number of third-year students will be selected during their second year to spend part or all of the third and fourth year in specified clerkships at the Charleston Division of the WVU Medical Center or other affiliated programs as designated by the faculty of the School of Medicine.

Ordinarily, third-year students should take Part II of the National Board of Medical Examiners examination in September of their fourth year. Under special circumstances, third-year students may take Part II of the NBME in April of their third year even though they will not have completed all of their clinical clerkships. In the event there is a question about when to take Part II, the student is advised to contact the Office of Student Affairs in the School of Medicine.

Fourth Year

The fourth year is selective. The student chooses one of three tracks (see MS IV three alternative tracks) and works with the adviser to select the individual program. This program must also be approved by the fourth-year curriculum coordinator in the Office of Student Affairs. The majority of students are urged to follow the general track.

The student chooses a specialty track by department, and may already recognize an attraction to a sub-specialty within that department. The research track offers opportunity to spend much of the fourth year in medical or biological research.

MEDICINE IV
Three Alternative Tracks

WEEKS	GENERAL	SPECIALTY	RESEARCH
4	Vacation	Vacation	Vacation
12	Special Selective Advisory Group Concurrence	Special Selective Department Chairperson Concurrence	Special Selective Advisory Group Concurrence
8	Clinical Neuro Sciences, Behavioral Medicine and Psychiatry, Radiology Ob Gyn or Pathology Including Clinical Pathology	Department Chairperson Approval	Advisory Group Approval
8	Medicine and or Pediatrics, Including Sub Specialty Units		
8	Sub Specialty Units		
4	Acute and Ambulatory Care		
44	TOTAL		

The student may choose a specialty track by department, and may already recognize an attraction to a sub-specialty within that department. The research track offers opportunity to spend much of the fourth year in medical or biological research.

Sixteen of the 44 weeks must be spent in intramural programs. In addition to programs on the Morgantown campus, the programs at the Charleston Division—WVU Medical Center, qualify as intramural. A *Catalog* is available that lists the approved intramural selectives.

Students interested in other extramural opportunities are advised to consult with the fourth-year curriculum coordinator in the Office of Student Affairs.

Every fourth-year student has the opportunity for four weeks of vacation. The student may alternatively choose valuable medical experience for vacation time.

A separate booklet lists the extramural in-state electives and provides specific guidelines for the fourth-year curriculum.

Courses of Instruction

Anesthesiology (Anes.)

Professors Eller (*Chairperson*), Heironimus, Rodman, and Smith; Associate Professors Dedhia, Graf, Martinez, and Teba; Assistant Professors George, Jopling, Long, Romine-Long, Schiebel, and Stadelnikas; Clinical Professors Cwik, Lilly, Weeks, and Zeedick; Clinical Associate Professors Bettinger, Hall, Koliner, Rajaratnam, Tercan, and Westmoreland; Clinical Assistant Professors Bellotte, Carter, Douglass, Gannon, Geronilla, Glicken, Green, Huber, Jawalakar, Kessel, Larkin, Mantia, Mathew, Reddy, Saldanha, and Schienholtz; Clinical Instructors Chevuru, Delgra, Mixon, Thompson, and Walker.

301. *Basic Sciences Applied to Anesthesia—Medicine I and II.* 1-6 hr. per year. PR: Consent. (Not offered during summer.) Examination and evaluation of data, decision-making, discussion of special procedures. (Max. enrollment: 10.)

331. *Clinical Clerkship in Anesthesiology/Acute Medicine. (Third Year.)* CR.

A. *Lectures to Third-Year Students on Topics Related to Anesthesiology.*

B. *Clinical Clerkship in Acute Medicine.* Preanesthetic evaluation, local and systemic anesthesia, airway management, cardiopulmonary resuscitation, respiratory care, clinical pharmacology, toxicology, fluid and blood therapy, and pain management. Seminars and practical exercises in emergency cardiac life support clinical experience in ICU or OR. (Duration: 2 weeks.)

399. *Selective Experiences in Anesthesiology. (Fourth Year.)* CR. (See Conjoined Courses.)

A. *Clinical Anesthesiology.* Participation in all aspects of intensive and respiratory care. Laboratory methodology. Measurement of ventilatory and circulatory parameters. Ventilator use and management. Offered continuously. Duration: 4 weeks. (Max. enrollment: 2.)

B. *Intensive and Respiratory Care.* Direct participation in all aspects of intensive and respiratory care. Laboratory methodology. Measurement of ventilatory and circulatory parameters. Ventilator use and management. Offered continuously. Duration: 4 weeks. (Max. enrollment: 2.)

C. *Pain Clinic.* Objective: To evaluate and treat patients with intractable pain from various disease states. Direct participation through a multidisciplinary approach using modalities of nerve blocks, physical therapy, sensory modulation, behavioral therapies, and neuropharmacology. Participation from Departments of Anesthesiology and Behavioral Medicine and Psychiatry. Duration: 2-8 weeks. Offered: Continuously. (Max. enrollment: 2.)

497. *Anesthesiology Research*. 1-15 hr. Participation in a variety of ongoing clinical research projects and/or in laboratory research related to the mechanism of action of analgesic drugs upon neurotransmitters and neuronal pathways involved in pain inhibition particularly monoaminergic and opioid processes. Duration: 4-24 weeks. Offered: By arrangement. Max. enrollment: 2.

Behavioral Medicine and Psychiatry (B.M.P.)

Professors Azzaro, Carter, DeVaul, Flink, Kelley, Morgan, Morgan, Quarrick, and Stevenson (Chairperson); Associate Professors Claude, Clausell, Cone, Ellis, Kommor, Linton, Reamy, Robison, Seime, Smith, Tinnin, and Walker; Assistant Professors Bhanot, Desai, Ganahl, King, and Nash; Research Assistant Professors C. Sullivan and P. Sullivan; Adjunct Professor Levine; Adjunct Associate Professors Barnette and Elkins; Adjunct Assistant Professors Desai, Faris, Hamilton, Harms, and Stephen; Adjunct Instructor Kent; Clinical Professors Ayd, Bateman, Comer, Haynes, Marquis, Mortell, Rossman, Weise, Withersty, and Wurmser; Clinical Associate Professors Collins, Edelstein, Edwards, Faheem, Goodman, Greenwood, Ingersoll, Kerns, Knapp, Nahemow, Panepinto, Settle, Smith, Strokes, and Ward; Clinical Assistant Professors Allen, Almond, Brailier, Capage, Chambers, Davis, Dickey, Donovan, Dunning, Fawley, Fink, Frye, Guy, Hamilton, Hasan, Hill, Hutton, Kovacevich, Lavine, MacCallum, McCluskey, McNeer, Morgan, Naviaux, Neilan, Panepinto, Portz, Puzzuoli, Sine, Smith, Smith, Soule, Stein, Tellers, Webb, and Williams; Clinical Instructors Caruso, Fawley, Gantt, and Hunter.

311. *Introductory Psychiatry*. (First Year.) II. 2 hr. An examination of normal psychological development and major clinical syndromes, and biological and environmental concomitants. A preceptor model is used to introduce the patient to interviewing, emphasizing the mental status examination.
321. *Introductory Psychiatry*. (Second Year.) I. 2 hr. Continuation of B.M.P. 311 with an in-depth look at basic science and social science parameters in psychiatry. The doctor-patient relationship and physician impairment are considered. Advance psychiatric interviewing is the focus of the preceptorship.
341. *Clinical Clerkship in Psychiatry*. (Third Year.) CR. Required of third-year medical students. Full-time assignment to the inpatient service in psychiatry, and participation and treatment of psychiatric disorders. Emergency Room responsibility.
399. *Selected Experiences in Behavioral Medicine and Psychiatry*. (Fourth Year.) (See Conjoined Courses.)

Community Medicine (C. Med.)

Professors Pearson (Chairperson) and Carlton; Clinical Professors Jarrett and Heydinger; Adjunct Professors Crews and Young; Associate Professors Hall, Smith (Emeritus), Wiles (Emeritus), and Wyant (Assistant Chairperson); Clinical Associate Professors Cooley, Greenwood, and Schwerha; Adjunct Associate Professors Ames, Brough, Goodwin, Graham, Hubbell, and Reger; Assistant Professors Garland, Jabbour, and Murray; Clinical Assistant Professors Avashia, Fenton, Howard, Mukkamala, and Scobbo; Adjunct Assistant Professors Amandus, Attfield, Gamble, and Harper; Clinical Instructors Atkins, Patton, Shafer, and Wilson; Adjunct Instructors Dacey, Melton, and Peterson.

311. *Methods of Biostatistics*. I. 3 hr. PR: Math. 3. Basic concepts of statistical models, distributions, probability, random variables, test of hypotheses, confidence intervals, regression, correlation, F and χ^2 distributions, analysis of variance with emphasis on methods of biostatistics. (Equiv. to Stat. 311.)
312. *Community Medicine*. (Second Year.) II. 2 hr. Open to limited number of graduate students. PR: Consent. The role of the physician in the prevention of disease and in the examination of health status in a community, with reference to demographic, economic, sociologic, environmental, and occupational factors. The organization of public health and medical care.

322. *Epidemiology and Biostatistics. (First Year.)* II. 2 hr. PR: Consent; medical students only. Epidemiological and statistical analysis of biologic phenomenon as related to medicine. Emphasis on descriptive statistics, analytical epidemiology, statistical inference, measures of association, and evaluation of medical literature.

Conjoined Courses (CC MD)

399. *Selective Experiences in Medicine. (Fourth Year.)* I, II, S. CR. PR: Satisfactory completion of the first three years of the medical curriculum. (Graded as S or U.) The fourth year is selective and offers a wide range of opportunities. The student works with the adviser to select the individual program. This program must also be approved by the fourth-year curriculum coordinator in the Office of Student Affairs. The year is composed of eleven 4-week blocks, 16 of which must be spent in intramural programs on the Morgantown campus or at the Charleston Division—WVU Medical Center. A Catalog is available that lists the specific guidelines for the fourth-year curriculum as well as approved intramural and in-state extramural selectives.

Family Practice

Professors Traubert and Vazquez; Associate Professors Arbogast, Lewis (*Interim Chairperson*), and Palmer; Assistant Professors Cleavenger, Dattola, Nath, and Swinker; Clinical Professors Davis, Fullmer, Hall, Jackson, Jarrett, Simmons, and Tully; Clinical Associate Professors Brooks, A. Cavender, J. Cavender, Eckert, Hess, Kellas, Mangus, Newman, Rashid, Santrock, and Sinclair; Clinical Assistant Professors Bergman, Clark, Crigger, Dickey, Elliott, Gais, Graham, Hayes, Hofreuter, Lindsay, McNeill, Merrifield, Nau, Perrine, Reed, Ritz, Roberts, Saver, Sine, and Warren; Clinical Instructors Blum, Casto, Conley, Hanna, Harris, Hokanson, Stearns, Taylor, and Wack; Patient Educator Murray.

399. *Selected Experiences in Family Practice. (Fourth Year.)* (See Conjoined Courses.)

Medicine (Med.)

Professors M. Albrink, S. Bekheit, E. Chideckel, R. D'Alessandri (*Chief, Comprehensive Medicine*), A. DiBartolomeo (*Chief, Rheumatology*), E. Flink, J. Fontana, A. Jain (*Chief, Cardiology*), J. Jones (*Vice President, Health Sciences*), R. Khakoo (*Chief, Infectious Diseases*), C. L. Kien (*Chief, Clinical Nutrition*), N. L. Lapp, D. Z. Morgan, E. Morgan, R. Ortel, W. Point (*Assistant Chairperson, Charleston Division*), P. Raich (*Chief, Hematology/Oncology*), S. Shane, (*Acting Chairperson*), J. Shultz (*Chief, Medicine, Wheeling Division*), J. Stevenson (*Chief, Behavioral Medicine/Psychiatry*), I. Ullrich, and W. Welton (*Chief, Dermatology*); Associate Professors E. Brestel (*Chief, Allergy & Clinical Immunology*), D. Colvin, H. Dedhia, A. Feder, C. Foulks, R. Gaskins (*Chief, Gastroenterology*), M. Georgiev, S. Grubb, T. Hogan, R. Kleinmann, R. Martin, A. Morise, A. Moss (*Chief, Nephrology*), A. Murgo, R. Powers, J. Riggs, P. Robinson, and J. Rogers; Assistant Professors H. Abrons, F. Al-Kawas, M. A. Antonelli, J. Brick, T. Finucane, M. Fisher, E. Funk, J. Holley, R. Kovach, R. Layne, L. P. Maxwell, R. McKenzie, L. Moreland, M. Mullins, J. Neely, S. Rector, A. Rohrer, S. Schmidt, D. Seibert, J. Shamma'a, W. Shockcor, J. Shumway, L. Teba, and E. Weiss; Instructors N. Blehschmidt, F. Blum, M. Borsch, K. Cockins, and G. Kujala; Adjunct Professor M. Rothstein; Adjunct Associate Professors R. Castellan, M. Counts, T. Hodous, and Rachel Yeater; Adjunct Assistant Professors P. Becker and A. Pau; Clinical Professors Emeriti D. Blatchley, C. Johnson, W. Pushkin, and P. Tuckwiller; Clinical Professors S. Artz, M. Avington, W. Carter, D. Gaziano, D. Latos, D. Lee, M. Lewis, R. Marshall, A. Pfister, R. Point, M. Reiter, W. Revercomb, M. Santer, P. Saville, H. Selinger, J. Skaggs, A. Valentine, and S. Warren; Clinical Associate Professors W. Anderson, B. Avashia, D. Basu, J. Byrd, T. Chvasta, H. Duncan, R. Gainer, W. Hall, J. Hartman, B. Houston, H. Jackson, D. Jones, S. Jubelierer, P. Kaplan, C. Koliner, D. Koppel, D. MacCallum, L. McCabe, B. McJunkin, W. Noble, L. Palmer, N. Parsons, M. Patel, E. Petsonk, J. Schwerha, R. Scobbo, G. Thakker, L. Thrush, C. Vasquez, C. Warren, and G. Zaldivar;

Clinical Assistant Professors S. Ahmad, R. Altmeyer, J. Arnett, C. Begley, T. Burke, N. Cassis, V. Chokkavelu, C. Cornwell, G. Crotty, P. Cunningham, M. Drews, P. Duffy, D. Farmer, E. Guy, K. Harman, T. Harper, W. Hijab, J. Hortin, R. Iyer, J. Keegan, F. Kerns, R. Lamb, A. Lee, R. Lewis, D. Liebeskind, D. Lilly, M. Lyons, S. Masilamani, V. Mazzocco, M. McCagh, R. McHugh, S. Mehrotra, D. Namay, K. Namay, M. O'Keefe, B. Pierson, A. Rahman, D. Rajan, K. Roberts, M. Roidad, T. Romano, R. Scarr, A. Schaeffer, F. Schwartz, A. Shah, G. Shehl, J. Stone, G. Szego, P. Treharne, A. Vaughn, and J. Wurtzbacher; Clinical Instructors S. Bivens, S. Farooqi, E. Humphreys, C. Jimenez, R. Lim, A. Miyara, K. Skaff, and G. Stark.

321. *Physical Diagnosis—Introduction to Medicine.* I, II. 5 hr. PR: Consent. Examination of normal subjects. Clinical concepts and practical experience in history taking and physical examination.

331. *Clinical Clerkship in Medicine. (Third Year.)* CR. Required of third-year medical students. The individual student is assigned responsibility for specific patients from the in-patient service at University Hospital or Charleston Area Medical Center service. The student is an integral part of the team providing diagnostic and treatment services needed by the patient, under direct supervision of members of the faculty of the department. The student elicits the patient's history, performs physical examinations, and performs or secures indicated laboratory and clinical studies. The student records findings and presents case reports for discussion by members of the faculty during hospital rounds or out-patient clinics. The student attends such staff conferences, etc., as directed by the departments. Clerkship in medicine occupies 12 weeks.

370. *Medical Genetics.* II. 2-4 hr. PR: Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as Gen. 370, Pedia. 370, CC MD 370.)

399. *Selected Experiences in Medicine. (Fourth Year.)* CR. (See Conjoined Courses.)

Neurological Surgery

Professors Kaufman (Chairperson), Nugent, and Dunker.

399. *Selective Experiences in Neurological Surgery. (Fourth Year.)* (See Conjoined Courses.)

Neurology (Neuro.)

Professors Azzaro, Gutmann (Chairperson), Martin, and Schochet; Associate Professors Dove, Fakadej, and Riggs; Assistant Professor Corey; Instructor Ringel; Clinical Professors Heck and Poffenbarger; Clinical Associate Professors Brick, Crosby, Kettler, and Pratt; Clinical Assistant Professors Govindan, Loudon, Morehead, Morgan, Stillers, Swisher, and Tellers.

341. *Clinical Clerkship in Neurology. (Third Year.)* CR. Required of third-year students. Basic fundamentals of the neurological evaluation and neurological diseases. Evaluation and treatment of hospitalized patients with neurological illnesses performed under supervision of attending and resident physicians. Conferences and correlative instruction in neuropathology and neuroradiology.

399. *Selected Experiences in Neurology. (Fourth Year.)* CR. (See Conjoined Courses.)

Obstetrics and Gynecology (Obst.)

Professors Butcher, Cox (Chairperson), Granados, and Mairs; Professor Emeritus Fugo; Associate Professors Ashraf, Cruikshank, Miller, and Reamy; Assistant Professor Toffle; Clinical Professors Behnam, Bonney, Chambers, Crites, and Palladino; Clinical Associate Professors Arceo, Berry, Clark, Grubb, Maxson, Sandhu, Stone, Thomas, Williams, and Withersty; Clinical Assistant Professors Cunningham, Curnutte, Fulcher,

Georgiev, Hitt, Jones, Percy, Turner, VanRiper, and Wanger; Clinical Instructors Gyimesi, Neal-Parker, and Trusky.

341. *Clinical Clerkship in Obstetrics and Gynecology.* (Required of third-year medical students.) Presents core knowledge of obstetrics and gynecology with small group instructional seminars, ward rounds, didactic teaching sessions and grand rounds conducted by faculty, house officers, visiting faculty, and students. Students are involved with care of all patients, participating in an essential role in patient care. Experience extends to outpatient clinics in all aspects of obstetrics and gynecology.
399. *Selected Experiences in Obstetrics and Gynecology. (Fourth Year.)* An elective subinternship in obstetrics and gynecology with major responsibility for patient care beyond that provided during the third-year curriculum. Students participate in outpatient and inpatient care with delegation of responsibility commensurate with level of training and ability. Supervision is provided by house officers and faculty. Greater participation in surgical procedures is provided, as well as active participation in complicated obstetrical patients.

Ophthalmology (Ophthal.)

Professors Weinstein (*Chairperson*) and Colasanti; Associate Professors Linberg and Schwab; Assistant Professors Feghali, Jabbour, Tsironis, and Odom; Clinical Professors Magee, O'Connor, Ryan, Trotter, Winkler; Clinical Associate Professors Blaydes, Hamrick, Nugent, Raju, Shepherd, Schwab, and Strickland; Clinical Assistant Professors Cassis, Fiery, Fogle, Genin, Pangilinan, Park, Rashid, Strauch, Tarakji, and Toma; Clinical Instructors Francke, Glen, McClure, Minardi, Scheive, and Schieb.

399. *Selected Experiences in Ophthalmology. (Fourth Year.)* (See Conjoined Courses.) Students are presented with the opportunity to acquire clinical skills in ophthalmology including techniques of eye examinations and certain aspects of emergency and elective treatment of eye disorders. There is close supervision by housestaff and members of the full-time ophthalmology faculty. Areas of special faculty interest include glaucoma, corneal diseases, retinal and vitreous diseases, and oculoplastic surgery. There are opportunities for students to participate in basic and clinical research. This experience occupies four weeks and can accommodate a maximum of 2 students and an additional student for a research project.

Orthopedic Surgery (Orth. Surg.)

Professor Radin (*Chairperson*); Professor Emeritus Pickett; Clinical Professor Davis; Associate Professors Blaha, Jones, and Labosky; Clinical Associate Professor Bowers; Assistant Professor Byrd; Clinical Assistant Professor Stoll; Clinical Instructor Kurth.

399. *Selected Experiences in Orthopedic Surgery. (Fourth Year.)* (See Conjoined Courses.)

Otolaryngology (Otolaryn.)

Professors Cody and Lass; Clinical Professors Bryant, Hall, Hatfield, and Morgan; Associate Professor Haydon; Clinical Associate Professors Bland, Cather (*Interim Chairperson*), Haislip, Jaquiss, Kamerer, Lim, Malone, Mathias, Oliverio, Paine, Snider, Spencer, Sporck, Tekieli, Whitaker, and Wilkinson; Assistant Professors Corey and Young; Clinical Assistant Professors Azar, Berryman, Dodd, Holt, Livingstone, Nichols, Ragheb, Riester, Seung, Wade, and Wallace; Clinical Instructors Crigger, Hively, Hoge, and Laurent.

399. *Selected Experiences in Otolaryngology. (Fourth Year.)* (See Conjoined Courses.)

Pediatrics (Pedia.)

Professors Neal (*Chairperson*), Kelley, Kien, Klingberg, and Vasquez; Associate Professors Dove, Fakadej, Mullett, Myerberg, Ritchey, and Wible; Research Associate

Professor Connors; Assistant Professors Balian, Davis, Desai, Ferrari, Hummel, Liechty, Shumway, and Tarry; Research Assistant Professor Strasburger; Instructors Rose and Sutherland; Clinical Professors Hansbarger, Harrison, Jakubec, Potterfield, and Stabins; Adjunct Associate Professor Woodrum; Clinical Associate Professors Burech, Israel, Kumar, Lewine, and Wolf; Adjunct Assistant Professors Hahon and Hilligoss; Clinical Assistant Professors Barron, Binder, Lambrechts, Lawrence, Morgan, Mossahabi, Rhee, Staab, Szego, Verma, and Verma; Clinical Instructors Iskander, Majumder, and Uy.

331. *Clinical Clerkship in Pediatrics. (Third Year.)* CR. Required of third-year medical students. See description of clinical clerkship under Med. 331. Clerkship in Pediatrics occupies 6 weeks.

370. *Medical Genetics. II. 2-4 hr. PR:* Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as CC MD 370, Gen. 370, Med. 370.)

399. *Selected Experiences in Pediatrics. (Fourth Year.)* (See Conjoined Courses.)

Radiology (Radiol.)

Professors Gabriele (Chairperson) and Frich; Associate Professors Jain, Lai, Marano, Sinha, Slack, and Wald; Assistant Professors Barnett, Chang, Conn, Higgins, Mace, Secrist, Willard, and Yoshizumi; Adjunct Assistant Professor Raofi; Clinical Professors Castro and Kennard; Clinical Associate Professors Barger, Bishop, Goodwin, W. Hayes, Hogan, Rogers, Sexton, Smith, and Wilder; Clinical Assistant Professors Abdalla, Briley, Caple, Caruso, Cordell, Crossen, Downey, Duncan, Francke, Gogineni, T. Hayes, Hetzer, Kalinowski, Kim, King, Koh, Koppikar, Kunst, Leef, Levy, McCord, Markowitz, Noble, Patterson, Reddy, Rosenblatt, Stupar, Tanguilig, Wershba, Wheatly, Weimer, Wolff, Wymer, and Yost.

The radiology staff aids in the instruction of students at all levels of the curriculum. They assist in the teaching of topographic anatomy in the first year. The careful interpretation of roentgenograms is an integral part of each clinical service.

101. *Radiology.* Selected experiences in general radiology.

102. *Neuroradiology.* Review of neuroanatomy with respect to application in neuroradiology. Selected experiences in neuroradiology.

103. *Cardiovascular Radiology.* Review of anatomy and embryology. Selected experiences in central and peripheral vascular radiology.

104. *Radiologic Physics.* Application of physics and mathematics to radiology, nuclear medicine, and radiation therapy.

399. *Selected Experiences in Radiology. (Fourth Year.)* CR (See Conjoined Courses.)

Surgery (Surg.)

Professors Boland, Cochran, Murray, Savrin, Vargish, and Warden; Clinical Professors AbuRahma, Bradford (Emeritus), Charbonniz, Ghaphery, Gilmore, Glass, Gray, Hershey (Emeritus), James, Kappel, J. Khan, M. Khan, King, Lawton, Leadbetter, Linger (Emeritus), MacDonald (Emeritus), McConnell, Mendoza, O'Dell, Surmonte, Trenton, Voss, and Walker; Associate Professors Apeltgren, Covey (Acting Chairperson), Foshag, Kusminsky, McDowell, and Quinlan; Clinical Associate Professors Bock, Boustany, Chang, Dickey, Figueroa, Fogarty, Foster, Griswold, Harrison (Emeritus), Kessel, Kite, Lee, Looby, Mahan, Mantz, Markey, Polack, Plaugher, Rahbar, Reed, Riggs, Schaefer, Shabb, Shackelford, Suson, Trammell, Valasquez, and Williamson; Assistant Professors Bonitatibus, Gustafson, Hewitt, Hill, Gutierrez-Perry, Rector, Rose, Rozar, Saxe, and Wanger; Clinical Assistant Professors Alfred, Al-Hajj, Amores, Barcinas, Burke, Capito, Cafoncelli, Carrier, Casuccio, Cash, Cone, Cross, Dickie, Elliott, Fedde, Fedder, Franco, Fuller, Getty, Grant, Heiskell, Isa, Johnson, Kalla,

Khoury, Kim, Kress, Kuban, McLellan, Mossallati, B. Page, J. Page, Porcaro, Rao, Rashid, Robinson, Sampath, Scheler, Seidler, Tiley, Vaghei, Veach, Walmsley, and Waluzak; Instructors Blum, Slomski, and Vaughan; Clinical Instructors Cowan, Dasari, Edwards, Holland, Neri, Patel, Staggers, Strauch, and Tolliver.

341. *Clinical Clerkship in Surgery. (Third Year.)* CR. Required of third-year medical students. Clinical clerks are assigned responsibility for hospitalized surgical patients under supervision of housestaff and attending surgeons. Students are an integral part of the team providing diagnostic and treatment services and are expected to take histories, perform physical examinations, and participate in ward and laboratory procedures. A course of surgical lectures, designed to outline surgical core curriculum, is given concurrently. The student is expected to attend the daily rounds and conferences arranged by the department.

399. *Selected Experiences in Surgery. (Fourth Year.)* (See Conjoined Courses.)

Urology (Urol.)

Professors Kandzari, Lamm (Chairperson), and Milam; Assistant Professors Lachance and Tarry; Clinical Professors McCuskey and Summers; Clinical Associate Professors Durig, Lane, Lindert, McCoy, and Trapp; Clinical Assistant Professors Beneke, Belis, Celis, Cricco, Kassis, Naranjo, Palmer, Ravitz, Recht, Serrato, Shannon, and Stoughton; Clinical Instructors Bailey, Farsaii, McClellan, Plymale, and Vaidya.

399. *Selective Experiences in Urology. (Fourth Year.)* (See Conjoined Courses.)

Medical Technology Undergraduate Program

The undergraduate program in medical technology is under the administration of the School of Medicine. Students are admitted into the program leading to a bachelor of science degree after the completion of two years of premedical technology in an accredited college or university. The WVU Medical Technology Program is accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association. Graduates are eligible for certification by the Board of Registry of the American Society of Clinical Pathologists (ASCP) and by the National Certification Agency for Medical Laboratory Personnel (NCA).

The undergraduate curriculum includes the premedical technology program, which is offered in the WVU College of Arts and Sciences and at Potomac State College in Keyser and the medical technology program which is offered in the School of Medicine.

Courses of the first two years (premedical technology) may be taken in any institution of recognized standing that offers the courses required for admission into the medical technology program.

Since the course of study of the last two years is of a professional nature, students must be enrolled in the WVU School of Medicine for this entire period. The work of the junior year (the first year in the medical technology program) includes courses which introduce the student to the medical sciences and courses which prepare the student for the work of the senior year. During the senior year (the second year in the medical technology program) the student receives both didactic instruction and practical experience in the University Hospital laboratories.

Aim and Purposes

The primary aim of the program in medical technology at WVU is to provide a strong undergraduate educational program in medical technology which leads to a bachelor of science degree and which provides an educational background compatible with the demands placed upon the medical technologist by the ongoing technologic revolution in laboratory medicine.

The purposes are: (1) to provide a program in medical technology which meets the academic standards of the University; (2) to provide graduate medical technologists for clinical, public health, and research laboratories; (3) to provide an educational background which enables graduates to prepare for teaching and supervisory positions in medical technology; and (4) to provide an educational background acceptable for graduate work in the medical sciences.

A program for certified medical technologists, who desire to complete requirements for a Bachelor of Science degree is available. (Further information may be obtained by contacting the Medical Technology Programs Office.)

Admission

Application for admission into the junior year (first year in the undergraduate medical technology program) should be made before the beginning of the second semester of the sophomore year in college. *Students at WVU or Potomac State College are not transferred automatically from the preprofessional course (first two years) to the professional course (third and fourth years.) Students are selectively admitted to the program for their final two years of work.*

Application forms for admission to the professional course are available after December 1 from the office of the Assistant to Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. The priority date for returning the application form is January 15 and the deadline date is February 1, if the student expects to enter the succeeding first semester classes.

Admission to the third year is on the recommendation of the Admissions Committee to the Dean. A personal interview with the Committee is required.

Admission Requirements

Complete information concerning WVU admission, fees and costs, registration, and regulations may be found in the *WVU Undergraduate Catalog*, College of Arts and Sciences section.

(a) Admission requirements for the first year (premedical technology) are those for the College of Arts and Sciences.

(b) Admission to the third year (first year of the medical technology program) is based upon two years of college work with a total of 62 hours as follows:

English. 6 hours. (Composition and rhetoric.)

Biological Science. 8 hours. (General biology or general zoology.)

Chemistry. 15-16 hours. (Inorganic chemistry, 8 hours; quantitative analysis, 3-4 hours; organic chemistry, 4 hours.) (Transfer students are required to have a complete course in organic chemistry to include aliphatic and aromatic compounds, 8 hours.)

Physics. 8 hours.

Mathematics. 3 hours. (College algebra is the minimal course requirement.) Trigonometry, or higher mathematics, is recommended.

Electives to complete the required hours and to meet University Core Curriculum requirements.

Courses such as bacteriology, parasitology, and anatomy should not be taken until after the completion of the sophomore year. A foreign language is recommended for students who plan to do graduate work.

Admission to the Program

1. Applicants should have a minimum grade-point average of 2.5 (cumulative and science). Applicants with less than a 2.5 grade-point average (either cumulative or science) may be admitted on probation. The cumulative grade-point averages for probation are based on all completed prerequisites. Applicants with less than a 2.0 grade-point average, either cumulative or in the sciences, will not be admitted. A grade-point average of 2.5, or above, does not necessarily assure admission.

2. References will be reviewed and considered.

3. Applicants admitted to the program must maintain a grade-point average of 2.0 each semester. Students in the Medical Technology Program are expected to conduct themselves in a manner consistent with the ethics of the profession.

4. Admission of international students to the program will also be in compliance with regulations of the WVU *Undergraduate Catalog*. Excerpts are as follows:

"International students should make all arrangements for their financial obligations to WVU and for their entire stay in the United States before leaving their country.

"Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

"Credentials—Complete and original official records of all studies undertaken by an applicant at any institution attended (secondary school, college, university, technical school, professional school, etc.) must be provided at time of application for admission to WVU. Copies of original records are acceptable, provided they are officially stamped.

"Such records should include: (1) complete dates of attendance; (2) identification of individual subjects; (3) total number of hours in each class per week; (4) total number of weeks each class meets in session; (5) final grade in each subject, for each year; (6) actual credits earned for each subject; (7) class, division, or rank achieved; (8) identification of the individual; (9) explanation of each institution's grading system; and (10) certification, and date, of degrees or awards achieved. If any of this information cannot be supplied, an official explanatory statement from the school should be submitted. (All documents must be accompanied by certified English translations.)"

5. Applicants completing or transferring credits to WVU must include a transcript of at least one science course (chemistry, physics, or biology) completed at an institution of higher education in the United States.

Academic Advancement and Standing

Junior Year—(First Year in the Medical Technology Program)

- 1. Any student having one or more Fs or more than 2 Ds at the end of the junior year will be suspended from the program.
- 2. Academic due process will be followed when students are suspended from the program.
- 3. No student with a grade-point average of less than 2.0 will be advanced to the senior year. A student admitted to the senior year with any grade of I (Incomplete) must satisfactorily remove the Incomplete within the following semester, unless permission for an extension is granted by the Senior Year Committee on Academic Standards.
- 4. No student will be advanced to the senior year unless recommended by the Junior Year Committee on Academic Standards regardless of academic average.

Second Year

- 1. To successfully complete the senior year, a student must maintain an overall grade-point average of 2.0 for each semester of the senior year.
 - 2. The faculty of the program may suspend or place on probation at anytime a student who is not maintaining a 2.0 grade-point average.
 - 3. If, in the judgment of an instructor, a student demonstrates a marked lack of understanding of course material, even though the student has an acceptable didactic average, a grade of I (Incomplete) will be submitted for that student. It is the student's responsibility to consult with the instructor for removal of an Incomplete.
- An Incomplete grade must be removed within the following semester or will be recorded as F unless an extension has been petitioned for by the student and granted by the Senior Year Committee on Academic Standards.

CURRICULUM PLAN
Premedical Technology

First Year			
First Semester	Hr.	Second Semester	Hr.
Chem. 15—Inorganic	4	Chem. 16—Inorganic	4
Elective*	3	Engl. 1—Comp. & Rhet.....	3
Math. 3, 4, or higher	3	Elective*	3
Biol. 1	4	Biol. 2	4
M. Tec. 1**	2		
	16		14

Second Year			
First Semester	Hr.	Second Semester	Hr.
Chem. 115—Analytical	4	Chem. 131—Organic	4
Electives*	6	Electives*	6-9
Phys. 1	4	Phys. 2	4
Engl. 2—Comp. & Rhet.....	3		
	17		14-17

*Electives from Core A and Core B are to be selected to meet University Core Curriculum requirements.

**M. Tec. 1 is not a required subject. It is highly recommended that all students take this course. M. Tec. 1 is offered each semester.

4. Graduation requires completion of all academic work in a satisfactory manner and recommendation of the faculty of the School of Medicine.

5. If in the judgment of the faculty a student's overall performance is not consistent with good patient care or the public interest (regardless of grade-point average), the student may be suspended or required to do remedial work.

6. To suspend a student with an acceptable grade-point average requires appropriate documentation and recommendation from two thirds of the faculty in the program of medical technology.

7. Academic due process will be followed when students are suspended.

8. Any student who withdraws from the program in the senior year for any reason must petition the faculty in medical technology for readmission if such is desired.

Medical Technology

Third Year

(Medical Technology I)

First Semester	Hr.	Second Semester	Hr.
M. Tec. 100	4	Parasitol. 224	4
Bioch. 139	5	M. Bio. 223	5
Physi. 241	4	M. Tec. 101	4
Elective	3	M. Tec. 202	2
		M. Tec. 210	1
		M. Tec. 291	2
	<u>16</u>		<u>18</u>

Fourth Year

(Medical Technology II)

Students receive didactic and clinical instruction in the University Hospital laboratories after completion of the junior year. The course of study begins with the summer session and covers three academic semesters. If the student has excessive absences during the senior year, the time loss must be made up at the end of the school year.

Students register for the following courses during the three semesters of study.

	Hr.
M. Tec. 200—Orientation	No Credit
M. Tec. 220—Immunohematology and Blood Banking	2
M. Tec. 221—Immunohematology and Blood Banking Laboratory	5
M. Tec. 230—Clinical Chemistry	2
M. Tec. 231—Clinical Chemistry Laboratory	5
M. Tec. 240—Clinical Hematology	2
M. Tec. 241—Clinical Hematology Laboratory	5
M. Tec. 250—Clinical Microbiology	2
M. Tec. 251—Clinical Microbiology Laboratory	5
M. Tec. 260—Instrumentation	2
M. Tec. 265—Laboratory Management	2
M. Tec. 270—Clinical Microscopy	1
M. Tec. 271—Clinical Microscopy Laboratory	1
M. Tec. 275—Medical Relevance of Laboratory Analysis	1
M. Tec. 280—Clinical Immunology	3
M. Tec. 290—Scientific Research and Writing	<u>1-4</u>

Degree

The degree of Bachelor of Science in Medical Technology is granted to those students who have completed the prescribed curriculum and who have been recommended for the degree by the faculty of the School of Medicine.

Graduate Program

The WVU Medical Technology graduate program prepares graduate medical technologists for positions either as administrators and teachers in medical technology educational programs, or as supervisors in special areas of the clinical laboratory. The primary objective is to assist in development of knowledge in an area in administration, in education, or a special area of interest selected by the student which may be a special medical laboratory science as the specific area applies to laboratory medicine. Specializations include clinical chemistry, clinical microbiology, hematology, and immuno-hematology. The specific course work requirements for the master of science degree rests with the graduate adviser in the student's specific area of interest.

Graduate Committee: Professors J. Holter, R. Iammarino, S. Jagannathan, H. Mengoli, D. Moore, Jr., and N. Rodman.

Admission (M.S.)

Applicants must have a baccalaureate degree in medical technology from an accredited institution or a baccalaureate degree in an allied field and be a certified medical technologist with an acceptable certifying agency.

The area of concentration in medical technology desired by the student is considered in the evaluation of the undergraduate record as follows:

1. Individuals who desire to do special study in clinical chemistry, hematology, or immuno-hematology must have completed a minimum of 8 hours of physics, 3 hours of mathematics, 4 hours of organic chemistry, and 4 hours of quantitative chemistry on the college level.

2. Individuals who desire to do special study in microbiology must have completed 4 hours of organic chemistry and 16 hours of biological sciences.

3. A minimum of one year's experience in a clinical laboratory is required for admission.

Students will be required to make up deficiencies in the above, as well as other deficiencies deemed necessary by the adviser.

Applicants must have a minimum undergraduate grade-point average of 2.5 (based on A equals 4.0 grade points) for admission.

All applicants to the graduate program are required to take the general aptitude part of the Graduate Record Examination. Results should be sent to the Medical Technology Programs Office, West Virginia University, Morgantown, WV 26506.

Two letters of reference must be on file in the Medical Technology office. One letter should be from the major adviser in the undergraduate college and another from the immediate supervisor of the applicant's present position. An interview will be requested for all applicants who meet the requirements for admission.

Applicants are selected for admission on the basis of scholastic standing, recommendations, and interest in the field of medical technology. The number of applicants accepted is necessarily limited by the available facilities; and in general, applicants with the most experience are considered first.

Application Procedure

A preliminary application is filed in the Medical Technology office.

Letters of recommendation are sent to the Medical Technology Programs Office.

After approval of the preliminary application, the admission procedure is the same as for other programs in WVU graduate studies.

A personal interview is required before final admission to the program. This interview will give the graduate student an opportunity to evaluate the program and to determine if the program will offer the educational opportunities which the student desires.

Course of Study

It is expected that the students who enter the graduate program in Medical Technology will have a goal in mind and a special field of interest in medical technology. The program is tailored to the needs of the student as far as possible. A minimum of 36 semester hours of credit including a research problem is required. The student selects a major area of concentration from either education, supervision, or administration, and a minor area from clinical microbiology, clinical chemistry, clinical hematology, or immunohematology.

A minimum of 15 semester hours of course work from the following courses is required dependent upon major area of concentration.

(A). The following course is required:

Ed. P. 320—Introduction to Research 3 hr.

(B). If the major area is education, the following courses are available:

Hl. Ed. 320—Roles and Functions of Health Education 3 hr.

Ed. A. 320—Personnel Administration 3 hr.

Ed. A. 351—Administrative Procedures in Adult Education 3 hr.

Ed. A. 462—Higher Education Law 3 hr.

Ed. A. 463—Higher Education Finance 3 hr.

Ed. F. 320—Philosophic Systems and Education 3 hr.

(C). If the major area is supervision and/or administration, the following courses are available:

Ed. P. 320—Personnel Administration 3 hr.

Ed. A. 462—Higher Education Law 3 hr.

Ed. A. 463—Higher Education Finance 3 hr.

Pub. A. 341—Administrative Organization and Management 3 hr.

Pub. A. 344—Public Personnel Administration 3 hr.

Pub. A. 345—Public Administration and Policy Development 3 hr.

(D). Other courses available for either major for additional credit are:

Ed. P. 231—Sampling Methods 3 hr.

Ed. P. 321—Design of Experiments 3 hr.

Ed. P. 343—Statistical Analysis in Education 3 hr.

Ed. P. 260—Medical and Microcomputers in Instruction 3 hr.

Ed. P. 301—Introductory Behavior Analysis: Human Resources 3 hr.

Ed. P. 364—Precision Teaching 3 hr.

Ed. P. 370—Programmatic Research 3 hr.

Hl. Ed. 308—Community Health: Death Education 3 hr.

Hl. Ed. 309—Community Health: Drug Education 3 hr.

(E). Ed. P. 311 (Statistical Methods), Stat. 311 (Statistical Methods), or C. Med. 311 (Biostatistics), is strongly recommended.

Other courses to complete 36 semester hours are selected by the student (with the help of the adviser) in the area of concentration selected by the student. Students may select courses in departments in schools other than the School of Medicine.

All students must complete a minimum of 18 semester hours in a science related to medical technology including Seminar (3 hr.) and Problem Study (6 hr.).

All students must rotate for orientation purposes through all sections of the University Hospital Clinical Laboratories to include microbiology, hematology, chemistry, immunohematology, and histopathology for a minimum of two days in each laboratory or a total of ten days.

In addition, at the discretion of the student's adviser, other requirements in teaching, supervision, and administration may be necessary.

The adviser works out with the student a plan of study for the entire graduate program. This plan is usually made at the end of the first semester of the student's graduate study. A copy of this "plan of study" is signed by the adviser and student and sent to the Medical Technology Office to be put in the student's file.

Examinations

A final written comprehensive examination in the major and minor interest areas is given approximately one month before the oral defense.

An oral defense of the problem is given one month after submission of the Problem Study in its final form to the student's Graduate Committee.

Requirements for Degree

All requirements for the master of science degree, as outlined in the WVU *Graduate Catalog*, must be fulfilled. These requirements can be fulfilled in three semesters of full-time work, but ordinarily at least four semesters are required for completion of the degree requirements.

Degree candidates must have a 3.0 grade-point average and must have removed all incomplete grades and deficiencies.

All students must complete a problem study (see M. Tec. 497).

Medical Technology (M. Tec.)

Professors Holter and Moore; Associate Professors Gutman, Henderson, and Sharpe; Instructor Blehschmidt.

1. *Orientation to Medical Technology*. I, II. 2 hr. Introduction to the profession of medical technology and the clinical laboratory specialties. (*Pass-Fail grading only.*)
100. *Medical Technology*. 4 hr. PR: Acceptance into the Medical Technology Program as a first-year student or consent by Director. Clinical laboratory procedures employed in patient diagnosis in the areas of blood coagulation, blood banking, hematology, and clinical microscopy.
101. *Medical Technology*. II. 4 hr. Continuation of M. Tec. 100.
200. *Orientation*. I, II, S. No credit. (For senior students.) Principles and practices of medical technology in relation to the hospital and clinics. (*Pass-Fail grading only.*)
202. *Laboratory Math, Quality Control, Computers*. II. 2 hr. Lectures and practice sessions in laboratory mathematics, techniques, and calculations in quality control and an introduction to computers to include terminology and basic operation.

210. *Clinical Laboratory Mycology*. II. 1 hr. How to isolate and identify the more commonly encountered pathogenic fungi as well as those fungi frequently seen as laboratory contaminants. The course will include basic taxonomy, isolation procedures, and identifying characteristics.
220. *Immunohematology and Blood Banking*. I, II. 2 hr. Lectures on immunohematology and blood banking theory and practice.
221. *Immunohematology and Blood Banking Laboratory*. Arranged. 5 hr. Clinical laboratory practice in blood banking procedures. Emphasis on procedures required for collection and preparation of blood and blood components for transfusion, special techniques, antibody studies, and problem solving.
230. *Clinical Chemistry*. I, II. 2 hr. Lectures on principles of clinical chemistry procedures; their clinical significance and implication in diagnosis.
231. *Clinical Chemistry Laboratory*. Arranged. 5 hr. Practice in the clinical chemistry laboratory.
240. *Clinical Hematology*. I, II. 2 hr. Lectures in hematologic theory and practice.
241. *Clinical Hematology Laboratory*. Arranged. 5 hr. Application of hematological principles to laboratory medicine. Emphasis on routine and specialized procedures, evaluation and problem solving.
250. *Clinical Microbiology*. I, II. 2 hr. Presentation and discussion of current methodology employed in the processing of clinical microbiology specimens, isolation and identification of pathogenic microorganisms, and determination of antimicrobial sensitivities.
251. *Clinical Microbiology Laboratory*. Arranged. 5 hr. Practice in the clinical microbiology laboratory to include isolation and identification of microorganisms; processing of specimens and antibiograms. Includes experiences in pathogenic mycology and parasitology.
260. *Instrumentation*. I, II, S. 2 hr. Principles of clinical laboratory instrumentation for medical technologists including principles of operation, maintenance, and troubleshooting.
265. *Laboratory Management*. I, II. 2 hr. Laboratory organization, economics, ethics, and records.
270. *Clinical Microscopy*. I, II, S. 1 hr. PR: Senior standing in Medical Technology or consent. Lecture to cover the screening of body fluids (urine, gastric juices, etc.) for abnormalities and pregnancy testing.
271. *Clinical Microscopy Laboratory*. I, II, S. 1 hr. PR: Senior standing in Medical Technology, or consent. Laboratory practicum in urinalysis, gastric analysis, pregnancy tests, and other procedures.
275. *Medical Relevance of Laboratory Analysis*. 1 hr. PR: Senior status in Medical Technology. Case presentations of pathologic entities encountered in the clinical laboratory. (Pass/Fail grading.)
280. *Clinical Immunology*. I, II, S. 3 hr. Lectures and laboratory practice in the principles of clinical immunology and their relationship to clinical laboratory technology.
291. *Ethics, Research, Educational Methodology*. II. 2 hr. Lectures in ethics, techniques of research, and techniques of educational methodology for medical technology students.
300. *Seminar*. I, II, S. 1 hr. Seminars include topics in laboratory management and education in medical technology, and timely topics. Minimum of 3 semester hours to include all three topics is required of all graduate students in the medical technology program.

491. *Advanced Study*. I, II, S. 1-6 hr. Investigation in advanced subjects which are not covered in regularly scheduled courses. Study may be independent or through specially scheduled lectures.
497. *Research*. I, II, S. 1-15 hr. Student is required to pursue study on a problem in the student's area of concentration. This study is reported in a thesis-style manuscript. For this study and report, the student registers in M. Tec. 497. Total number of hours earned in M. Tec. 497 is determined by the student's adviser. As many as 9 semester hours may be taken during one semester or, by arrangement with the adviser, credit hours may be taken over several semesters. In the final compilation for degree requirements, only 6 semester hours in M. Tec. 497 will be counted toward fulfillment of the 36 required semester hours for the degree even though the student may have registered for as many as 15 hours in M. Tec. 497.

Division of Physical Therapy

The Division of Physical Therapy, under the auspices of the School of Medicine, offers the final two years of a baccalaureate program leading to a degree in physical therapy.

The first two years of study may be completed in WVU's Pre-Physical Therapy Program, or in any other accredited institution which offers courses comparable to the admission requirements of the Division of Physical Therapy. To be eligible for a degree, a student must complete the final two years of the curriculum at WVU.

Admission to the third year is based upon 62 or more credit hours of study which satisfy the University Core Curriculum requirements and the prerequisites, or their equivalent, of the Division of Physical Therapy. *Registration in the first two years does not automatically assure the student a place in the junior class. A student will be accepted on a competitive basis and selection will be based on scholastic standing and on those personal characteristics which are desirable in physical therapists.*

The student must satisfactorily complete a three-month period of clinical internship before the awarding of the baccalaureate degree. Expenses incurred during this time (room, board, and transportation) must be borne by the student. A Certificate of Proficiency in Physical Therapy then will be awarded which entitles the graduate to seek membership in the American Physical Therapy Association and to become eligible for state licensure for the practice of physical therapy. A physical therapist can practice professionally only after having passed the state board examination in the state where employment is desired.

Admission to Professional Program

A personal interview with the Admissions Committee is required; and (1) only those students with at least a 2.6 cumulative grade-point average and a 2.75 science average (4.0 scale) will be interviewed; (2) applicants must complete all University Core Curriculum requirements and physical therapy prerequisites by the end of the Spring term in which they apply; (3) a grade of C or better must be earned in all of the physical therapy prerequisites. In addition to satisfying the prerequisite and University Core Curriculum requirements, the applicant to physical therapy must also have: (1) volunteer or work experience in physical therapy and (2) scores on the Allied Health Professions Admission Test (given at major universities) which must be submitted to the Division. The Admissions Committee will advise the applicant of the time and place for the interview. Individuals who do not meet

the above requirements but who believe extenuating circumstances justify admission may petition the Admissions Committee for an interview. Reasons why the application should receive special consideration should be clearly stated in the petition.

Official enrollment forms are available at the office of the Assistant to the Director, Admissions and Records, WVU Medical Center, Morgantown, WV 26506, beginning December 1 of each year. Application forms should be returned no later than March 1 in the year admission is desired.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants who have attended West Virginia schools or colleges or have other State ties will be considered.

Academic Standards

Clinical Education Program

Students must satisfactorily complete the pre-internship clinical education program. During this time students will be expected to defray any and all costs of the program. The Clinical Internship Program is scheduled in the summer of the Senior Year. Before the student is allowed to leave for clinical internships the student must: (1) have completed all academic requirements of the program satisfactorily; (2) be of good health and have a full health insurance policy which will be in effect the entire internship period; (3) be prepared to defray the following types of costs: tuition, travel, room and board, and any incidental cost.

Promotions and Dismissals

A. Students admitted to the Physical Therapy professional program must register for all prescribed courses for each term.

B. In order to progress in the professional sequence, a course grade of P (pass) or a C must be earned in all required courses and in each unit of a course when a course is designed with unit exams. Students earning a grade of D or F in a course will not be able to progress and will be dismissed from the program.

C. A student who is unable to complete a course may, at the discretion of the instructor, receive a grade of Incomplete (I). The grade I must be changed to P (pass) or C (or above) by mid-term of the next term in order for the student to progress in the program.

D. A student who does not attain a C or above in each course unit or module, may at the discretion of the instructor, be able to remediate the unit(s) not satisfactorily completed.

1. If the decision is to provide for some form of remediation, the student will have one opportunity to complete the work at a C or better level by the beginning of the next term. If, at the completion of this work, a C is not attained, the student will be dismissed from the program and W's (withdraw) will show on his/her transcript for all courses given in the term in question.
2. If the decision is not to provide remedial work for the student, he/she will be dismissed from the program at that time and receive W's for all courses required in that particular term. The decision not to provide remedial work shall be documented by the course instructor and Academic Standards Committee within the Division.

E. Students must maintain a grade-point average of 2.5 in all required courses of the physical therapy professional program. A student whose grade-point average in the program falls below 2.5 will be dismissed. If the student has no grades of D or F, he/she may petition the Division Committee on Academic Standards to be placed on probation for the following term. If probation is granted, the program grade-point average must be raised to 2.5 or above by the end of the probationary term or the student will be dismissed from the program.

F. The Division of Physical Therapy reserves the right to suspend or dismiss any student who does not perform at an overall level considered satisfactory for patient care.

Curriculum Plan

This curriculum is designed to satisfy the course requirements for admission to the professional portion of the curriculum in Physical Therapy offered by the School of Medicine. The University Core Curriculum requirements must be satisfied, and a total of 62 hours is required for admission to the first professional year. This suggested curriculum plan allows latitude in career choice and is basically compatible with various curricula in the arts and sciences.

First Year			
First Semester	Hr.	Second Semester	Hr.
Psych. 1**	3	Engl. 1	3
Chem. 15**	4	Chem. 16**	4
Biol. 1**	4	Biol. 2**	1
Electives*	6	Electives*	6
	17		17
Second Year			
First Semester	Hr.	Second Semester	Hr.
Engl. 2	3	Psych. Elect.**	3
Psych. 141**	3	Phys. 2**	4
Stat. 101**	3	G.P.E. 2	1
Phys. 1**	3	Electives*	9
G.P.E. 1	1		
Electives*	3		
	17		17
Third Year			
First Semester	Hr.	Second Semester	Hr.
Path. 128	2	Anat. 102	3
Anat. 101	4	Anat. 308	2
Physi. 241	4	Ph. Th. 110	3
Ph. Th. 111	4	Ph. Th. 112	3
Ph. Th. 117	1	Ph. Th. 114	2
Ph. Th. 120	3	Ph. Th. 116	1
	—	Ph. Th. 118	3
	18		17

*Electives: Students are required to satisfy University Core Curriculum requirements. In addition, these electives are suggested: HN&F 71; Biol. 61, 166; Psych. 242, 243, 245, 281, 282; Comm. 11, 106, 221.

**Courses required for admission to the Division of Physical Therapy.

Fourth Year

First Semester	Hr.	Second Semester	Hr.
Ph. Th. 271	4	Ph. Th. 270	3
Ph. Th. 273	3	Ph. Th. 272	2
Ph. Th. 275	3	Ph. Th. 274	4
Ph. Th. 277	3	Ph. Th. 276	3
Ph. Th. 279	4	Ph. Th. 278	5
Ph. Th. 281	<u>1</u>	Ph. Th. 282	<u>1</u>
	18		18

Summer

	Hr.
Ph. Th. 290	3-6

Courses of Instruction in Physical Therapy (Ph. Th.)

Professors Burkart (*Director*) and Petronis; Adjunct Professor Nelson; Associate Professors Barnes and Harris; Adjunct Associate Professors Erhard and Weaver; Assistant Professors Riegger and Rodgers; Adjunct Assistant Professor Nester; Instructor Gazsi.

(Courses included in the physical therapy curriculum, but not listed here, may be found in the Basic Sciences section of this catalog.)

110. *Functional Anatomy*. II. 3 hr. The musculoskeletal and neuromuscular systems including biomechanics, principles of movement, and analysis of muscle and joint action. Abnormal function due to physical disabilities and pathological disturbances. Students study normal human development and maturation through laboratory sessions involving evaluation and observation of children ranging in age from newborn to 5 years.
111. *Physical Therapy Principles and Physical Agents*. I. 4 hr. PR: Biol. 1, 2; Chem. 15, 16. Lecture-laboratory introduction to physical therapy and orientation to patients. Safety procedures, gait training, and nursing procedures related to physical therapy orientation to theory and application of hydrotherapy, thermotherapy, cryotherapy, actinotherapy, massage, and ultrasound are presented.
112. *Pulmonary Physical Therapy*. II. 3 hr. Correlation of anatomy, physiology, pathology, and treatment of pulmonary conditions. Laboratory in pulmonary evaluations and respiratory treatment procedures. Lectures and case presentations in medicine and surgery concerning chest and thoracic conditions.
114. *Medicine and Neurology*. II. 3 hr. PR: Ph. Th. 111. Lectures in medicine including dermatology, aging, neurology, pharmacology and vascular disorders.
116. *Clinical Education* 1. II. 1 hr. Students perform basic treatment procedures under the supervision of experienced therapists in various clinics. (*Graded Pass-Fail only*.)
117. *Seminar*. I. 1 hr. PR: Ph. Th. 111. Investigation of selected problems and issues.
118. *Basic Therapeutic Exercise*. II. 3 hr. This course includes the application of principles and techniques of traditional forms of anaerobic and aerobic exercises and goniometry. Isotonic, isometric, and isokinetic exercises are presented with an emphasis on the understanding of human cardiopulmonary functions under the stress of motor activity. Laboratory work in the application of basic exercises and pertinent cardiopulmonary stress tests is included.
120. *Human Development*. I. 3 hr. PR: Physical therapy students only. Presents human development across the life span with a special emphasis on neuromotor development. Topics include genetics, embryology, infancy, childhood, adolescence, adulthood, and death.

270. *Organization and Management*. II. 4 hr. PR. Ph. Th. 275, 281. Basic principles and philosophy of management and the organization with emphasis on styles of leadership, group dynamics, theories of motivation, delegation of responsibility and authority, conflict management, verbal and nonverbal communications, decision analysis and fiscal management.
271. *Electrotherapy and Electromyography*. I. 4 hr. Orientation to theory and application of electrical currents. Laboratory experience in electrical diagnosis and treatment procedures. Basic principles and actual clinical experience with patients offered in electromyography, including nerve conduction and needle insertion studies. Use of electrical stimulation for pain control is also explored.
272. *Professional and Community Relationships*. II. 2 hr. Community health organization, including local, state, and national facets such as Medicare-Medicaid and welfare. Planning based on chronic disease epidemiology. Role of physical therapist and other allied health personnel in providing comprehensive health care for chronically ill and geriatric population. Students become involved in care of the home-bound.
273. *Physical Evaluation*. I. 4 hr. PR: Ph. Th. 110, 118. Principles and techniques of performing evaluation testing procedures within the scope of the physical therapist, including manual muscle testing, neurological, ADL, and basic orthopedic evaluations.
274. *Orthopedic Physical Therapy*. II. 3 hr. PR: Ph. Th. 110, 118, 273. Selected lectures and cases in orthopedics. Emphasis on effects and treatment of disease and injury to musculoskeletal and neuromuscular systems. Laboratory practice in orthopedic assessment and procedures, including mobilization techniques.
275. *Professional Literature and Research*. I. 3 hr. Current literature method writing, statistics, and introduction to research methodology. A senior project is required.
276. *Elective Study*. II. 3 hr. Highly skilled techniques used in physical therapy are many and varied. It is beyond the scope of any baccalaureate program to offer such skill to every student in all areas. Therapists are beginning to specialize in certain areas. The student chooses a particular area and develops it to the student's fullest capabilities in the allotted time.
277. *Clinical Teaching*. I. 2 hr. Emphasis on the physical therapist fulfilling numerous teaching roles. Students develop skill and techniques in the facilitation of learning, objective writing, A-V utilization and development of evaluation tools for both clinical and didactic settings.
278. *Correlative Rehabilitation*. II. 5 hr. Lecture, case presentations, and laboratory practice concerning the pathology, evaluation, and treatment in the areas of spinal cord injuries, amputations, and burns. Underlying philosophy and principles of comprehensive care of the handicapped. Prosthetics, orthotics, bowel and bladder training, assistive and supportive devices, and wheelchair evaluations.
279. *Advanced Therapeutic Exercise*. I. 4 hr. Correlation of the basic principles acquired from study of gross anatomy, neuroanatomy, pathology, physiology, and functional anatomy with the scientific application of bodily movement. In-depth study of types and desired effects of exercise and methods and techniques primarily concerned with neuromuscular re-education. Laboratory practice consists of application of specific neurophysiological techniques to patients presented with various neuromuscular problems.
281. *Clinical Education 2*. I. 1 hr. Continuation of Ph. Th. 116. The student's participation in treatment programs is increased and enlarged to include basic testing and evaluation procedures. (*Graded Pass-Fail only.*)
282. *Clinical Education 3*. II. 1 hr. Supervised experience in more specialized procedures and testing techniques and patient program design. (*Graded Pass-Fail only.*)
290. *Clinical Education 4*. S. 1-12 hr. Three full-time summer affiliations of six to eight weeks each in a variety of extramural facilities, such as a general hospital, children's facilities, rehabilitation services, and public health. (*Graded Pass-Fail only.*)

School of Nursing

Philosophy

Nursing shares with other disciplines the overall purpose of the health care system in assisting clients to attain, regain, and retain optimal health. Specifically, the purpose of nursing is to assist clients wherever they are, in the performance of those activities contributing to optimal health (or a peaceful death) the clients would normally initiate and perform unaided if they had the necessary strength, knowledge, and motivation.

The practice of nursing embodies a holistic concept of man. This concept is derived from a synthesis of general education and nursing education. General education is that component of learning derived from the whole of knowledge and truth that is not specialized or particular to any field but which supports many fields. It provides the individual with basis for moral grounding, with a knowledge of man and the universe, a basis for understanding of self and others, as well as an appreciation of the past, an understanding of the present, and the process for predicting the future. These primary concepts form a foundation for subsequent learning in the applied discipline of nursing. Nursing education is that process by which the nurse continually synthesizes the conceptual base, while developing and applying one's intellectual, interpersonal, and technical skills in assisting individuals, families, and communities to meet their health needs. This process unifies practice, teaching, and research in the advancement of nursing.

The faculty believes that man is a physiological, psychological, social and spiritual being, capable of rational thought and action. Throughout the life span, one progresses through developmental stages and continually strives to meet basic human needs in a uniquely patterned way. Within the context of socio-cultural backgrounds, individuals perceive and respond to stimuli as integrated wholes. Individuals maintain basic human integrity through the process of dynamic continuous interaction with their internal and external environment.

Man is a member of innumerable systems within a total society which is organized to meet client recognized needs, with the family being the primary system for meeting health needs. Society organizes health care systems to assist the family in meeting the health needs of its members. Each person has the right of access to those resources which will assist in attaining and maintaining optimal states of health.

Health is a dynamic state which constantly fluctuates among varying degrees of wellness and illness. Health states embody physiological, psychological, social, and spiritual dimensions. The optimal state of health which can be attained and maintained is unknown but is influenced by genetic endowment, the environment in which individuals live, and their ability to cope with actual and potential stresses.

The faculty believes learning is a life-long process, enhanced by a climate of personal acceptance of the learner as an integrated being with internal motivation, attributes, dignity, and worth. Learning is a progressive and cumulative experience resulting in changed behavior which becomes useful in subsequent learning situations.

The teaching/learning process includes opportunities for teacher-student interaction in setting goals, selecting and evaluating learning experiences, and in appraising instructional methods and student progress. The process of

education takes place in an atmosphere characterized by a democratic spirit in which student and faculty can share learning experiences. This climate encourages the development of intellectual curiosity, systematic inquiry, the capacity for self-direction, and a sense of commitment to continued learning. Through this educative process, faculty and students continue to develop as informed persons responsible for contributing to the improvement of the profession and society through on-going creative efforts.

Undergraduate education in nursing prepares persons capable of beginning professional nursing practice and provides foundation for graduate education in nursing. Upon completion of the baccalaureate curriculum, the nurse can practice in a variety of settings and with clients of various developmental levels. The graduate uses process skills to maintain, restore, or improve health states of clients, and uses leadership theory to effect change. The baccalaureate graduate uses a conceptual base to evaluate and modify nursing role in relationship to client needs and expectations, and is prepared to support efforts in expanding nursing knowledge.

Graduate education in nursing prepares clinicians capable of leadership in developing and expanding nursing knowledge, skills, and practice competencies in light of societal needs. Preparation at the master's level provides the opportunity for the student to demonstrate self-direction and effective interactions with other health professionals in improving nursing practice and the health care delivery system. The master's graduate is able to provide quality health care in a variety of settings while clarifying and redefining nursing roles.

Programs Offered

The School of Nursing has on-campus or extension programs leading to the B.S.N. and M.S.N. degrees in Morgantown, Charleston, Parkersburg, Beckley, and Shepherdstown. Currently, the complete basic program leading to the Bachelor of Science degree in nursing is only available in Morgantown. A limited number of basic senior students may complete their senior year in Charleston. The program track for R.N.'s which leads to the B.S.N. degree is available at all sites. The graduate program leading to the M.S.N. degree is offered in Morgantown and Charleston.

The School of Nursing also offers the basic B.S.N. degree program in consortium with Glenville State College through a program offered on the Glenville and Charleston campuses. Further information on this program is available from Glenville State College or the School of Nursing.

Admission—Basic Program

To qualify for admission to the School of Nursing basic program a candidate must have completed one year of prescribed courses in an accredited college or university. Applicants are eligible for review by the Admissions Committee after completion of one full semester of course work in an accredited college or university. The prescribed courses include subjects such as: Chemistry, 8 hours; English Composition, 3 hours; Introductory Sociology, 3 hours; Introductory Psychology, 3 hours; Nutrition, 3 hours; Life Span Growth and Development, 3 hours; Core subjects, Biology, 4 hours; and/or electives.

A dominant factor in the number of students admitted is the limitation of space. Currently, the maximum number of basic students which can be

accommodated is 72. Since West Virginia University is a state university, and since the number of qualified applicants exceeds the number which can be accommodated, primary consideration is given to applicants from West Virginia. However, up to 10 percent of those admitted to each class may be from out of state.

Application forms for the School of Nursing are distributed by the Office of Admissions and Records at the Medical Center after December 1. Application for admission to the School of Nursing must be made by February 15 of the year the candidate wishes to be admitted. The application may be presented in person or mailed directly to the Assistant Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. An application fee of \$10.00, payable to West Virginia University, must accompany the completed application. The deadline for receipt of transcripts and other required materials is February 15.

The applicant's academic record is the major factor in the decision on admission. The West Virginia resident must have a grade-point average of 2.5 or above, on a scale of 0.0 to 4.0 on all college work attempted, to qualify for consideration. Residents of other states must have an average of 3.2 or above on all college work attempted to be considered. West Virginia applicants whose grade-point average falls between 2.3 and 2.5 may petition in writing to the Admissions Committee for special consideration. Out-of-state residents with a grade-point average between 3.0 and 3.2 also may petition. Such a petition must be submitted along with the application and must clearly state why the applicant should receive special consideration.

The review of applicants takes approximately two months. The students are notified by mail after review of all applicants is completed. Two weeks after receipt of the letter of acceptance, the student must send a letter stating acceptance of the position to the Assistant Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. A \$50.00 advance deposit must accompany the letter. This deposit is applied toward the registration fees for the first semester. The deposit is nonrefundable should the student decide not to enter after formally accepting a place in the class.

Admissions—Transfer Students to Basic Programs

A student with nursing credit from an accredited college or university is eligible for admission by presenting a record of courses comparable to those required in this curriculum and meeting other School of Nursing admission requirements. Application for transfer students should be initiated three months prior to the beginning of the semester in which they wish to begin nursing courses. Transcripts and other required materials must be received no later than two months before the start of the entering semester. Apply to: Assistant Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506 specifying request for admission as a transfer student.

Program for Registered Nurse Students

The School of Nursing offers graduates of diploma and associate degree nursing programs the opportunity to complete requirements for the baccalaureate degree in nursing at the Morgantown campus, at the Charleston Division of the WVU Medical Center, and by extension at Shepherdstown, Parkersburg, and Beckley. General education credits earned in any accredited college or

university may be applied toward the fulfillment of the degree requirements, if the course work is comparable. The continued offering of nursing courses at the various extension sites is dependent upon faculty resources and a minimum enrollment of 15 students in each nursing course.

Registered Nurse applicants are admitted directly to the School of Nursing. Acceptance and placement in the program is dependent upon the individual's academic record and upon the number of spaces available in the program. The license to practice nursing and a grade-point average of 2.5, or better, on all college work attempted, are required. Registered Nurses whose grade-point average falls below 2.5 may petition in writing to the Committee on Admissions for special consideration. A license to practice nursing as an R.N. in West Virginia is required for enrollment in all clinical nursing courses.

A minimum of 30 hours of general education courses that meet the University Core Curriculum and School of Nursing requirements should be completed before enrollment in the first nursing courses, Nursing 100, Basic Concepts in Professional Nursing and Nursing 101, Transitional Practicum. It is recommended that the 30 hours be selected from the suggested freshman and sophomore courses listed in the "Suggested Plan of Progression" under the section on curriculum. Special attention should be given to the physical, biological, and psycho-social sciences. Completion of additional general education courses beyond the 30 hours is recommended if the R.N. student wishes to carry a part-time course load. The second semester of chemistry may be waived if the applicant has successfully completed comparable laboratory science courses and meets other science requirements (Anatomy, Physiology, Microbiology, and Pharmacology).

All R.N. students are required to enroll in Basic Concepts of Professional Nursing (Nursing 100) and concurrently in Transitional Practicum (Nursing 101). The purpose of these courses is to facilitate transition into baccalaureate nursing. Special emphasis is placed on socialization into role and expectations of this role according to the School of Nursing's conceptual framework.

Graduates of associate degree programs establish lower-division nursing credit by the transfer of hours. Graduates of diploma establish sophomore-level credit in nursing by successful completion of a comprehensive lower-division challenge examination.

Upon successful completion of Nursing 100 and 101, establishment of sophomore nursing credit, and completion of the general education course requirements for the first and second years of the program listed under the section titled, "Suggested Plan of Progression," the R.N. student is eligible for the advanced placement experience (APE). This semester-long experience is a conceptual approach to the challenge of junior nursing courses. The experience results in an individualized diagnostic analysis of learning needs and completion of prescribed learning to meet these needs. The prescriptive component of the advanced placement, usually completed during the same semester as the APE, forms the basis for continued learning in senior courses. Difficulty with APE may require special work or enrollment in sophomore or junior course work. Generally, APE is followed by enrollment in senior nursing courses.

Senior nursing courses must be taken by enrollment. Successful completion of junior level advanced placement experience and general education requirements must be met prior to enrollment.

Requests for application forms for the Morgantown Campus and Parkersburg or Shepherdstown extension sites should be addressed to the Assistant

Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506.

Application forms for the Charleston Division or Beckley extension site may be obtained from the Student Affairs Coordinator, Charleston Division, WVU Medical Center, 3110 MacCorkle Ave., S.E., Charleston, WV 25304.

Further information about the program may be obtained from Chairperson, Sophomore Academic Unit, School of Nursing, WVU Medical Center, Morgantown, WV 26506; or Chairperson, Charleston Academic Unit, School of Nursing, Room 2017, WVU Medical Education Building, 3110 MacCorkle Ave., S.E., Charleston, WV 25304.

Academic Standards and Graduation Requirements— B.S.N. Students

The student must: (1) maintain a cumulative grade-point average of 2.0 or better in all work attempted; (2) pass all graded nursing courses with a grade of C or better; and (3) pass all required courses.

A student who fails to meet the requirements listed above must present to the adviser an acceptable plan for meeting the requirements. This plan must be within the policies and standards set by the Committee on Academic Standards.

The degree of Bachelor of Science in Nursing (B.S.N) is conferred upon completion of a minimum of 127 hours.

Fees, Expenses, Housing, Transportation

Students registering pay the fees shown in the WVU Medical Center fees charts, plus special fees and deposits as required. Fees are subject to change without notice.

Expenses of students attending WVU vary widely according to their course of study and their individual tastes.

Students are expected to provide their own equipment and instruments for the clinical courses.

Information concerning financial assistance and application forms may be obtained by visiting or writing the Financial Aid Office, Basic Sciences Building, WVU Medical Center, Morgantown, WV 26506. Telephone 304/293-3706.

The University Housing and Residence Life Office, G-18 Towers (phone 304/293-3621), provides information concerning University-owned housing. The Student Life Office in Moore Hall provides information concerning privately owned, off-campus housing, (phone 304/293-5611).

Some clinical experiences require the student to travel in a multi-county area. Each student is responsible for providing her/his own transportation.

Curriculum

The conceptual framework of the WVU School of Nursing is based on four concepts. These are man, health, environment, and process.

Man assumes many roles in life. In nursing these roles are specific yet interdependent. Man-role is conceived as either that of the man-nurse or the man-client. When man in the client role and man in the nurse role come together for the purpose of the nurse assisting the client to achieve health, the process becomes operational. Process is the means by which the goal is

attained. The process between man-nurse and man-client takes place in and influences a certain environment. On the other hand, the environment influences process, man-nurse, man-client, and health in many ways.

Thus, the curriculum design for both undergraduate and graduate programs is derived from basic beliefs about the major concepts and from beliefs about learning and holism. In essence, a framework is initially provided to identify the core concepts and their relationships. This framework becomes the student's vehicle or mechanism through which added knowledge can be organized and syntheized, generating new ideas.

SUGGESTED PLAN OF PROGRESSION

FIRST YEAR

First Semester	Hr.	Second Semester	Hr.
✓ Chem. 11	4	Chem. 12	4
✓ Psych. 1	3	✓ Engl. 1	3
✓ Soc. & A. 1	3	✓ Biol. 2	4
✓ HN&F 71	3	✓ Psych. 141.....	3
✓ Core A	3	✓ Core A	3
	<hr/> 16		<hr/> 17

SECOND YEAR

First Semester	Hr.	Second Semester	Hr.
✓ Nsg. 80	4	✓ Nsg. 75	2
✓ Nsg. 81	2	✓ Nsg. 82	4
✓ Anat. 101	4	✓ Nsg. 83	2
✓ M. Bio. 26	4	✓ Physi. 141	4
✓ Engl. 2	3	✓ Pcol. 160	3
	<hr/> 17		<hr/> 15
✓ Nsg. 100 (R.N.s only)	4		
✓ Nsg. 101 (R.N.s only)	2		

SUMMER BETWEEN SECOND AND THIRD YEAR

	Hr.
Nsg. 180	3
Nsg. 181	3
(Basic Students only)	<hr/> 6

THIRD YEAR

First Semester	Hr.	Second Semester	Hr.
✓ Nsg. 182	4	✓ Nsg. 184	4
✓ Nsg. 183	4	✓ Nsg. 185	4
✓ Nsg. 175 or Soc. & A. 211	2-3	✓ Nsg. 175 or Soc. & A. 211	2-3
✓ Core A/elective	3-6	✓ Core A/elective	3-6
	<hr/> 13-17		<hr/> 13-17

(Advanced Placement Experience for Junior Level Nursing Courses
available for the R.N.s) 18 credit hours

FOURTH YEAR*

First Semester	Hr.	Second Semester	Hr.
Nsg. 284.....	3	Nsg. 275.....	3
Nsg. 280.....	3	✓ Nsg. 282.....	2
Nsg. 281.....	1	✓ Nsg. 283.....	2
Nsg. 286.....	3	✓ Nsg. 285.....	3
OR		OR	
Nsg. 282.....	2	Nsg. 280.....	3
Nsg. 283.....	2	Nsg. 281.....	1
Nsg. 285.....	3	Nsg. 286.....	3
Core A electives	3-6	Core A electives	3-6
	10-16		10-16

*The sequence of courses may vary from campus to campus.

Master of Science in Nursing (M.S.N.)

The School of Nursing offers a program of study leading to the Master of Science in Nursing (M.S.N.) degree to prepare the professional nurse for the role of nurse clinician in the advanced practice of nursing in primary health care. The program, which is administered by the Graduate Academic Unit, is offered at the University campus in Morgantown and through extension, serving the southern and northern regions of the state.

Designed in an integrative fashion, this non-traditional graduate program offers a curriculum model which allows students to enroll on a part-time or full-time basis. Throughout the curriculum, students are guided in the process of self-development aimed at pursuing excellence in scholarly and professional endeavors. The program allows flexibility within the basic curricular structure through the individualization of learning experiences, electives, thesis, and the opportunity to investigate an area of interest in advanced study.

The pattern of duration for the individual student study plan is determined in consultation with a faculty adviser and is based upon the student's background and goals. The program can be completed in four semesters of full-time study at the Morgantown campus, averaging a load of 9-12 credit hours per semester.

The program is accredited by the National League for Nursing.

Admission Requirements

The applicant must:

1. Meet the admission requirements of graduate education at West Virginia University.
2. Have completed a baccalaureate program in nursing which is accredited by the National League for Nursing (NLN). Applicants with a baccalaureate degree from nursing programs without NLN accreditation will be considered on an individual basis.
3. Have completed a course in introductory statistics (3 credit hours).
4. Provide the following:
 - a. Statement of philosophy of nursing and professional goals.
 - b. Letter of recommendation from each of the following: head of undergraduate nursing program, employer, and a colleague.
 - c. Evidence of a current professional nursing licensure in at least one state.
5. Have an interview with a Graduate Academic Unit faculty member.

Five parameters are used for review of applicants: (1) academic achievement; (2) residency/employment; (3) professional experience; (4) career goals; and (5) recommendations. WVU School of Nursing is an equal opportunity/affirmative action institution.

Once admitted, the student is assigned to a faculty adviser who guides the student in curricular and academic matters. Enrollment in nursing courses is based upon readiness, availability of space, and other essential resources.

The application process should be completed by January 1 for summer (May) enrollment; and March 1 and August 1 for fall and spring enrollment, respectively. Class sizes are limited, based on available faculty resources and space.

Application Process

Applicants need to complete the following steps in order to be considered for admission:

1. Complete two application forms as indicated and return to the appropriate offices to avoid unnecessary delay in the review process.
 - a. Application for admission to Graduate Studies—To be returned with a \$20.00 nonrefundable service fee to: Office of Admissions and Records, West Virginia University, P.O. Box 6009, Morgantown, WV 26506-6009.
 - b. Application for admission to the Master of Science in Nursing Program—To be returned to: Chairperson, Graduate Academic Unit, WVU School of Nursing, Morgantown, WV 26506.
2. Request an official transcript of records from each college or university attended. Transcripts and records should be sent directly to the WVU Office of Admissions and Records.
3. Send three recommendation letters directly to the Chairperson of the School of Nursing Graduate Academic Unit.
4. Participate in an interview with a faculty member teaching in the graduate program. The interview is for the purpose of verifying application materials, reviewing admission criteria, identifying deficiencies and transferable credits and, where possible, projecting a tentative plan of study. It is expected that the applicant will take an active role in the interview process to be informed about the basis for the admission criteria.

Degree Requirements

1. Completion of 42 semester credit hours. Minimum of 33 hours in nursing and 9 hours of non-nursing electives. The required non-nursing electives are restricted to 3 hours in computer utilization and 6 hours of humanities and/or social sciences.

2. Completion of a Thesis (6 hours); or a master's paper (3 hours). Students electing a master's paper must complete an additional 3 hours of credit.

3. Achievement of an overall academic average of at least a B in all work attempted in the master's program. The grade C in two nursing courses will require a faculty review of the student's program progression.

4. Removal of all conditions, deficiencies, and incomplete grades.

Credit hours for courses in which the grade is lower than C will not count toward satisfying graduate degree requirements.

Students are expected to register for courses with letter grades (A, B, C), with the exception of electives which the student may opt to take with

Satisfactory (S) or Unsatisfactory (U) grades, subject to the approval of the adviser.

M.S.N. Curriculum

<i>Nursing Theory, Practice, and Research (30-33 hours)</i>	<i>Hr.</i>
Nsg. 300—Advanced Nursing: Primary Health Care 1	3
Nsg. 301—Advanced Nursing: Primary Health Care 2	3
Nsg. 302—Advanced Nursing: Primary Health Care 3	3
Nsg. 310—Advanced Nursing Practice 1	3
Nsg. 311—Advanced Nursing Practice 2	3
Nsg. 312—Advanced Nursing Practice 3	3
Nsg. 370—Theories in Nursing	3
Nsg. 373—Research Process and Methods in Nursing	3
Nsg. 400—Advanced Nursing Practice 4	3
Nsg. 497—Research (Master's Thesis)*	6

*Students electing a master's paper will enroll in Nursing 497 for 3 hours. An additional 3 hours of credit must be taken.

33

Electives (9 hours)

Cognates (Non-nursing)	9
Total	42

Sample Progression Plan (Full-Time Study)

<i>Semester I</i>	<i>Hr.</i>	<i>Semester II</i>	<i>Hr.</i>	<i>Semester III</i>	<i>Hr.</i>	<i>Semester IV</i>	<i>Hr.</i>
Nsg. 300	3	Nsg. 301	3	Nsg. 302	3	Nsg. 400	3
Nsg. 310	3	Nsg. 311	3	Nsg. 312	3	Nsg. 497	3
Nsg. 370	3	Nsg. 373	3	Nsg. 497	3	Elective	3
		Elective	3	Elective	3		
	9		12		12		9

TOTAL: 42 hours

Courses of Instruction in Nursing (Nsg.)

(For Nursing Majors Only)

75. *Issues of Nursing. II.* 2 hr. PR: Sophomore standing or consent. Overview of past, present, and future issues of the nursing profession. Emphasizes a historical review of the nursing literature.
80. *Concepts of Nursing 1. I.* 4 hr. PR: Sophomore standing or consent. Conc.: Nsg. 81. Introduces concepts, principles, and theories of nursing practice in relation to the health promotion with individuals and their families. Includes intellectual and interpersonal arts and psychomotor skills basic to nursing practice.
81. *Practicum 1. I.* 2 hr. PR: Sophomore standing or consent. Conc.: Nsg. 80. Selected experiences for the application of the basic concepts necessary for health promotion. Includes experience with individuals of all ages and their families. (Graded as Pass-Fail.)
82. *Concepts of Nursing 2. II.* 4 hr. PR: Nsg. 80, 81 or consent. Conc.: Nsg. 83. Concepts, principles, and theories of nursing practice with individuals experiencing minor deviations from wellness. Includes adapting mechanism necessary to regain health.
83. *Practicum 2. II.* 2 hr. PR: Nsg. 80, 81 or consent. Conc.: Nsg. 82. Selected experiences in which the nurse assists clients to cope with wellness and minor deviations from wellness. Includes experience with individuals of all ages and their families. (Graded as Pass-Fail.)

100. *Basic Concepts of Professional Nursing*. I. 4 hr. PR: West Virginia R.N. licensure or consent. Concepts and principles related to the professional nurse role. Focuses on the nurse role and role transition plus concepts in the School of Nursing curriculum.
101. *Transitional Practicum*. I. 2 hr. Conc.: Nsg. 100. Selected clinical experiences designed to help students identify strengths and remedy weaknesses in applying professional nursing concepts to client care. (*Graded as Pass-Fail.*)
175. *Issues of Nursing* 2. I, II. 2 hr. PR: Nsg. 75 or consent. Issues of nursing practice. Emphasizes related theories and research.
180. *Concepts of Nursing* 3. S. 3 hr. PR: Junior standing or consent. Conc.: Nsg. 181. Concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and moderate deviations from wellness. Builds on past intellectual and interpersonal arts and psychomotor skills.
181. *Practicum* 3. S. 3 hr. PR: Junior standing or consent. Conc.: Nsg. 180. Selected experiences for the application of concepts of nursing practice with individuals and families experiencing acute health care needs and moderate deviations from wellness. Includes experience with individuals of all ages. Emphasizes the practice of psychomotor skills. (*Graded as Pass-Fail.*)
182. *Concepts of Nursing* 4. I. 4 hr. PR: Nsg. 180, 181 or consent. Conc.: Nsg. 183. Concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and major deviations from wellness.
183. *Practicum* 4. I. 4 hr. PR: Nsg. 180, 181 or consent. Conc.: Nsg. 182. Selected experiences for the application of concepts of nursing practice with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages. (*Graded as Pass-Fail.*)
184. *Concepts of Nursing* 5. II. 4 hr. PR: Nsg. 182, 183 or consent. Conc.: Nsg. 185. Continuation of concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages.
185. *Practicum* 5. II. 4 hr. PR: Nsg. 182, 183 or consent. Conc.: Nsg. 184. Selected experiences for application of concepts of nursing practice with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages. Emphasizes nursing care problems of increased complexity. (*Graded as Pass-Fail.*)
275. *Issues of Nursing* 3. II. 3 hr. PR: Senior standing or consent. Analysis of professional nursing issues in order to synthesize a professional philosophy of nursing.
280. *Concepts of Nursing* 6. I, II. 3 hr. PR: Senior standing or consent. Concepts, principles, and theories of professional nursing practice associated with individuals and/or families who are experiencing a critical, isolated health problem. Includes individuals of all ages. Introduces specialized psychomotor skills.
281. *Practicum* 6. I, II. 1 hr. PR: Senior standing or consent. PR or Conc.: Nsg. 280. Selected experiences for the application of concepts of nursing practice with individuals and/or families experiencing a critical, isolated health problem. Includes experience with individuals of all ages. Emphasizes the practice of specialized psychomotor skills. (*Graded as Pass-Fail.*)
282. *Concepts of Nursing* 7. I, II. 2 hr. PR: Senior standing or consent. Concepts, principles, and theories of professional nursing practice associated with individuals and/or families within the health care delivery system. Includes individuals of all ages.

283. *Practicum 7. I, II. 2 hr. PR: Senior standing or consent. PR or Conc.: Nsg. 282.* Selected experiences in the application of concepts of nursing practice with individuals and/or families within the health care delivery system. Emphasizes a comprehensive study of a health concern in a defined population. (Graded as Pass-Fail.)
284. *Concepts of Nursing 8. I. 3 hr. PR: Senior standing or consent. Analysis and synthesis of nursing role. Emphasizes theories of leadership and change, and environmental factors affecting health care delivery.*
285. *Practicum 8. I, II. 3 hr. PR: Senior standing or consent. PR or Conc.: Nsg. 284.* Selected experiences in the practice of professional nursing in primary and secondary settings. Focus is on the incorporation of processes in the care of clients and the analysis of health care. (Graded as Pass-Fail.)
286. *Practicum 9. I, II. 3 hr. PR: Senior standing or consent. PR or Conc.: Nsg. 284.* Selected experiences in the practice of professional nursing in acute or critical-care settings. Focus is on the incorporation of processes in the care of clients and the analysis of health care. (Graded as Pass-Fail.)
300. *Advanced Nursing: Primary Health Care 1. I, II, S. 3 hr. PR or Conc.: Nsg. 370.* Analysis and synthesis of concepts in nursing and related sciences relevant to the development of a conceptual framework for nursing in primary health care.
301. *Advanced Nursing: Primary Health Care 2. I, II, S. 3 hr. PR: Nsg. 310. PR or Conc.: Nsg. 373.* Development of a conceptual model for nursing with emphasis on developing strategies to promote client health.
302. *Advanced Nursing: Primary Health Care 3. I, II, S. 3 hr. PR: Nsg. 311.* Further development and/or refinement of a conceptual model for nursing with specific emphasis on planned change strategies and how these strategies impact health.
310. *Advanced Nursing Practice 1. I. 3 hr. Conc.: Nsg. 300.* Advanced nursing practice focusing on applicability of concepts in students' developing conceptual framework.
311. *Advanced Nursing Practice 2. II, S. 3 hr. Conc.: Nsg. 301.* Advanced nursing practice focusing on development and application of nursing strategies within the context of the students' conceptual model.
312. *Advanced Nursing Practice 3. I, S. 3 hr. Conc.: Nsg. 302.* Advanced nursing practice focusing on application and testing of students' conceptual model, identification of a health problem area within the practice setting, and preparation of a planned change strategy.
370. *Theories in Nursing. I, S. 3 hr. PR: Graduate standing; consent.* Introduction to the structure and function of extant theories in nursing as a basis for developing a conceptual framework for nursing.
373. *Research Process and Methods in Nursing. II. 3 hr. PR: Nsg. 310, 370.* Study of the research process and methods for incorporation into students' conceptual model, practice and research in nursing.
400. *Advanced Nursing Practice 4. I, II. 3 hr. PR: Nsg. 312.* Collaborative practice focusing on the evaluation and modification of students' conceptual model for nursing and implementation of a planned change strategy.
491. *Advanced Study. I, II. 1-3 hr. PR: Graduate standing; consent.* In-depth study of topics related to current issues in primary health care. Study may be independent or through specially scheduled seminars.
497. *Research. I. 1-3 hr. PR: Nsg. 373; PR or Conc.: Nsg. 312; consent.* Refinement and implementation of research proposal to meet requirements for the master's thesis, or implementation of the master's paper.
497. *Research. II. 1-3 hr. PR: Nsg. 497.* Completion of master's thesis.

School of Pharmacy

Pharmacy was first offered at West Virginia University as a department in the School of Medicine, beginning in 1914. It was changed to the College of Pharmacy in 1936 and to the School of Pharmacy in 1958. In 1960, the School of Pharmacy changed from a four-year to a five-year program—including two years of pre-pharmacy.

The objective of the School of Pharmacy is to educate practitioners for current and future roles in the profession of pharmacy.

The pharmacy curriculum consists of three years of professional study preceded by a minimum of two years of study in an accredited college of arts and sciences.

The curriculum is designed to provide the student with the scientific and technical knowledge and communication skills required to practice the profession and to inculcate in the student a concept of the pharmacist's professional responsibilities as a health science practitioner and as a guardian of the public health.

Most pharmacy graduates enter practice in community or institutional pharmacies; however, many positions are also available in various government agencies, professional organizations, and industry. Pharmacists are eligible for commissions in the armed forces and the U.S. Public Health Service.

Graduates also may prepare for careers in teaching and research by entering graduate schools for specialization in pharmacy, pharmaceuticals, pharmacognosy, pharmaceutical chemistry, pharmacy administration, and pharmacology and toxicology. The pharmaceutical industry provides opportunities in a variety of capacities in promotion, distribution, production, and research.

Accreditation

The School of Pharmacy is accredited by the American Council on Pharmaceutical Education. The council is composed of members from American Pharmaceutical Association, National Association of Boards of Pharmacy, American Association of Colleges of Pharmacy, and American Council on Education.

The School of Pharmacy holds membership in the American Association of Colleges of Pharmacy whose objective is to promote the interests of pharmaceutical education. All institutional members must maintain certain requirements for entrance and graduation.

Legal Requirements and Reciprocity

To qualify for examination for licensure by the West Virginia Board of Pharmacy, the applicant must be not less than 18 years of age, and of good moral character. Further, the applicant must be a graduate of an accredited school of pharmacy, and must meet the internship requirements set by the West Virginia Board of Pharmacy.

Interns must be registered with the West Virginia Board of Pharmacy and must be enrolled in or a graduate of an accredited school of pharmacy to gain experience acceptable for the internship requirement. Details may be obtained from the Office of the Dean.

School of Pharmacy graduates are eligible for examination to practice pharmacy in any state. Graduates who successfully pass the West Virginia

Board of Pharmacy examination are privileged to reciprocate, without further examination, with forty-seven other states, and with the District of Columbia and Puerto Rico, provided they meet the requirements of these states.

Admission

All students seeking enrollment in the School of Pharmacy must comply with regulations appearing in this and the WVU *Undergraduate Catalog*.

Students preparing for the study of pharmacy may satisfy the course work requirements for entrance into the School of Pharmacy by majoring in any arts and sciences subject and including in their course selections the following, or their equivalents:

English 1, 2—Composition and Rhetoric	6 hr.
Mathematics 3—College Algebra*	3 hr.
Mathematics 4—Trigonometry*	3 hr.
Economics 54, 55—Principles of Economics	6 hr.
Biology 1,2—General Biology	8 hr.
Chemistry 15, 16—Fundamentals of Chemistry	8 hr.
Chemistry 133, 134, 135, 136—Organic Chemistry	8 hr.
Physics 1,2—Introductory Physics	8 hr.
Electives (Core A & B)**	18 hr.

*Math. 14, Pre-calculus (4 hr.), or Math. 15, Calculus (4 hr.) may be substituted for these two courses.

**Electives must be designed to satisfy the University Core Curriculum requirements. (See "Regulations Affecting Degrees" for a listing of specific courses.) Core A—12 hr.; Core B—6 hr. in addition to Economics 54 and 55.

Because limited openings are available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

Admissions are competitive and are based on cumulative academic average and science average achieved in all prior college courses, a personal interview, recommendations, and results of the Pharmacy College Admission Test (PCAT). A required course in which a grade of D was received will have to be repeated with a grade of C or better before acceptance can be granted by the School of Pharmacy Committee on Admissions.

For admission to the School of Pharmacy, formal application should be made to the Committee on Admissions of the School of Pharmacy as early as possible after January 1, but by April 1, preceding the fall term (first semester) in which the student is seeking enrollment. Formal applications received after the April 1 deadline will be considered only when vacancies exist.

Applicants should write to Office of Admissions and Records, WVU Medical Center, Morgantown, WV 26506, which will furnish official blanks on which formal application must be made.

A \$10.00 application fee is required and must accompany the application.

Each applicant who is recommended for acceptance is expected to deposit \$50.00 before the applicant's name is entered upon the official list of those accepted by the School of Pharmacy. If the applicant enrolls, this sum is applied to the first-semester tuition. If the applicant fails to enroll, this deposit is forfeited.

It is required that during the first semester of the first year all students must complete certain prescribed immunization and diagnostic procedures.

Complete information may be obtained from the Dean of the School of Pharmacy, Morgantown, WV 26506; or from the Office of Admissions and Records, WVU Medical Center, Morgantown, WV 26506.

Pharmacy College Admission Test

Completion of the Pharmacy College Admission Test is a requirement for admission. It is strongly recommended that the student take this test in the fall before making application for admission. Information concerning time and place of the test can be obtained from a pre-pharmacy adviser, the School of Pharmacy, or by writing: Pharmacy College Admission Test, The Psychological Corporation, 555 Academic Court, San Antonio, TX 78204.

Personal Interview

A personal interview with the Committee on Admissions is required. An interview is granted to applicants with competitive academic records and with reasonable anticipation of fulfilling all pre-pharmacy requirements prior to the Fall Semester admission. Applicants with a cumulative overall and science GPA of at least 2.5 are guaranteed an interview. Under special circumstances, some applicants with slightly lower averages may also be invited to come for an interview. Interviews are held at the WVU Medical Center during February, March, and April on Fridays and Saturdays and will be arranged insofar as possible to suit the convenience of the applicant.

Admission to Advanced Standing

If space is available, students from other accredited schools of pharmacy may be admitted provided they meet the course requirements of the WVU School of Pharmacy, have a 2.5 grade-point average, and are eligible for readmission for the degree in pharmacy in the school previously attended. D grades in professional courses will not be transferred.

Student Status and Advancement

The determination of student status is in the hands of the Committee on Academic Standards of the School of Pharmacy. All committee actions are subject to approval of the Dean. In the School of Pharmacy, all grades except W, WU, P, and X are used to determine the cumulative grade-point average. The advancement of students in the School of Pharmacy is based on satisfactory academic performance, as well as the completion of course requirements.

To be in good standing, a student must maintain at least a 2.0 cumulative average in professional subjects. An F grade or failure to attain a 2.0 average in any semester will result in placing a student on probation. To be removed from probation, a student shall: (a) remove all academic deficiencies; (b) attain not less than a 2.0 cumulative grade-point average; and (c) demonstrate significant improvement in academic performance earning a C grade or better in all course work prescribed by the Committee on Academic Standards. Failure to be removed from probation in the subsequent semester may be deemed sufficient reason for suspension or the withdrawing of advancement. Furthermore, any student on probation at the end of the second professional year must petition the Committee on Academic Standards for advancement to the third professional year. Any student on probation at the beginning of the second semester second professional year, or who qualifies for probation at the end of that semester, shall not be eligible for summer clerkships.

Any first-professional-year student deficient 7 or more grade points shall fail promotion and shall repeat the year. Any second-professional-year student deficient 4 or more grade points shall fail promotion and shall repeat the year. Any student deficient 12 or more grade points, or who fails promotion a second time, shall be suspended.

Students on probation are not eligible to hold office in student organizations or to participate in activities which make demands on time necessary to maintain satisfactory academic performance. Students are expected to be present for all of their classes and laboratories. Full-time students in the School of Pharmacy may not register for less than 12 hours nor more than 20 hours during any semester without the approval of the Committee on Academic Standards.

Special Requirements

Students in the first professional year are required to obtain an Intern Certificate from the West Virginia Board of Pharmacy. Any hours worked before becoming a Registered Intern will not count toward the 1500 clock hours required by the Board of Pharmacy for licensure in West Virginia. The Intern Certificate must be maintained until completion of the internship.

During the first professional year, students will be informed of their assigned semester for the third professional year's required externship/clerkship program. Location and time of the rotations will be assigned during the first semester of the second year. Opportunity will be provided to state individual preference before assignments are made. The School of Pharmacy reserves ultimate responsibility in making such assignments. Each student will be expected to bear any financial burdens (i.e., living, moving, travel, etc.) incurred in satisfying externship/clerkship assignments. The class will be divided equally in thirds for the summer, fall, and spring terms with a maximum of 24 students during any semester.

Requirements for Degree

The degree of Bachelor of Science in Pharmacy (B.S.Pharm.) is conferred upon any student who complies with the general regulations of WVU concerning degrees, satisfies all entrance and School of Pharmacy requirements, and completes the curriculum of the School of Pharmacy.

To be eligible for graduation, a student must have an average of C (2.0) for all work in the professional curriculum.

Course Changes

A student who desires to obtain credit for a course in place of any course prescribed in the student's curriculum must obtain permission for such change from the Committee on Academic Standards.

Curriculum

SCHOOL OF PHARMACY CURRICULUM PLAN

First Professional Year

First Semester	Hr.	Second Semester	Hr.
Bioch. 139—Gen. Biochem.	4	M. Bio. 220—Microbiology	4
Anat. 101—Hum. Anat.	3	Phar. 202—Concepts. Pceut. 2	4
Physi. 241—Mech. Body Funct.	4	Phar. 207—Intro. to Drug Lit.	1
Phar. 200—Prep. Phar. Pract.	3	Phar. 228—Phar. Pract. Leg. Env.	4
Phar. 201—Concepts Pceut. 1	3	Phar. 241—Fund. Pathophys.	3
Phar. 227—Phar. Soc. Env.	2	Phar. 270—Fund. Med. Chem. 1	3
	<hr/> 19		<hr/> 19

Second Professional Year

First Semester	Hr.	Second Semester	Hr.
Pcol. 243—Pharmacology	4	Phar. 205—Phar. Pract.	4
Phar. 203—Concepts Pceut. 3	4	Phar. 230—Prof. Asp. Phar.	3
Phar. 229—Man. Asp. Phar. Pract.	3	Phar. 243—Chem. Immu. Agts.	3
Phar. 245—Pharmacotherapeutics 1 ...	3	Phar. 246—Pharmacotherapeutics 2 ...	3
Phar. 271—Fund. Med. Chem. 2	2	Phar. 260—Princ. Med.	3
Electives	0-3	Electives	0-4
	<hr/> 16-19		<hr/> 15-19

Third Professional Year

First Session (Summer)	Hr.	Second Session (First Sem.)	Hr.
Phar. 250—Amb. Care Clerkship	4	Phar. 250, 251, 252, and 253	
Phar. 251—Med. Team Clerkship	4	(See First Session)	16
Phar. 252—Inst. Care Clerkship	4	or	
Phar. 253—Elect. Clerkship	4	Electives, a minimum of	12
	<hr/> 16	or	
		Free Session	

or

Free Session

Third Session (Second Sem.)	Hr.
Phar. 250, 251, 252, and 253	16

or

Electives, a minimum of	12
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or

Free Session

Prior to graduation and following completion of the first professional year, each student enrolled in the School of Pharmacy must complete a minimum of 19 credit hours of electives as part of the pharmacy curriculum.

Of the 19 credit hours, a minimum of 10 credit hours must be electives offered in the School of Pharmacy. The remaining credit hours may be approved electives offered in other colleges and departments at WVU. Elective course lists are posted in the School of Pharmacy and are available from the student's adviser. Under special circumstances (e.g., new courses, preparation for special post-baccalaureate programs, etc.) and only with the adviser's permission, the student may take a course which does not appear on either list of approved electives. Beyond the required 19 credit hours, the

student may take any other electives. No course taken prior to admission into the School of Pharmacy may be used nor repeated to meet the elective requirements of the professional curriculum.

A student admitted into the School of Pharmacy with a previously earned baccalaureate degree may petition the Committee on Academic Standards to be relieved of a maximum of 9 credit hours of approved elective courses outside the School of Pharmacy. It is assumed that this will be granted if the student is in good academic standing. The student will petition for this exemption during the preregistration period in the Spring Semester of the first year in pharmacy school with the exemption contingent upon the successful completion of both semesters of the first-year pharmacy curriculum. Once the exemption is granted after the first two semesters in good academic standing, it shall not be revoked except for just cause as deemed necessary by the Dean and/or faculty.

The University pass/fail policy will be followed. Only Pharmacy 289 (first offering up to 3 hours), approved electives in other colleges and departments at WVU, or additional free electives may be taken on a pass/fail basis. A student with at least a 2.0 grade-point average may elect to take up to a maximum of 4 credit hours each semester on a pass/fail grading basis.

Graduate Programs

Pharmaceutical Sciences

The School of Pharmacy offers graduate programs in the pharmaceutical sciences aimed at educating competent researchers and teachers. Programs for the degree of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) provide flexible, research-oriented curricula designed to develop the interests, capabilities, and potential of the individual student.

Admission

Applicants for admission must satisfy the general requirements for admission as graduate students. The applicant must possess a baccalaureate degree with a background in a suitable area of study, an overall grade-point average of at least 2.75, and the aptitude and interest for graduate work in the pharmaceutical sciences in order to be admitted with regular students status. Applicants not meeting criteria for admission with regular student status will be considered for admission under alternate admission classifications as explained in Part 2 of the *WVU Graduate Catalog*. In addition, graduate record examination scores in the verbal, quantitative, and analytical portions of the examinations are required from all students, and TOEFL, or similar scores, are required of foreign students. While the Graduate Record Examination (GRE) scores are preferred for applicants in the area of Behavioral and Administrative Pharmacy, test scores on the Graduate Management Admissions Test (GMAT) are acceptable.

Academic Standards

No credits are acceptable toward a graduate degree with a grade lower than a C.

The graduate student must have a cumulative grade-point average of at least 3.0 in all graduate courses to qualify for the degrees.

Master of Science (M.S.)

The School of Pharmacy offers programs of graduate study leading to the degree of Master of Science (M.S.) in the pharmaceutical sciences. Students may specialize in pharmacy administration, pharmacology and toxicology, pharmacognosy, pharmaceutical chemistry, industrial pharmacy, medicinal chemistry, pharmaceuticals, biopharmaceutics, and pharmacokinetics.

Requirements for M.S. Degree

To be eligible for the M.S. degree, the student must complete a minimum of 30 hours of graduate credit, of which no more than 6 hours may be for research and thesis.

Upon completion of the course work and research requirements and after submission of the thesis, an oral examination will be administered by the appointed examination committee.

Doctor of Philosophy (Ph.D.)

The School of Pharmacy offers programs of study leading to the Doctor of Philosophy (Ph.D.) degree in the pharmaceutical sciences. Specialty areas of study include medicinal chemistry, pharmaceuticals, biopharmaceutics/pharmacokinetics, and behavioral and administrative pharmacy.

Requirements for Ph.D. Degree

The student's first semester is usually occupied with course work while he or she is under the guidance of an assigned interim committee. During this time, each student will confer with several faculty members concerning the research project, and a major professor should be chosen by the end of the first semester of graduate study. The student's research committee should be chosen by the end of the first year of study (18-20 hours of graduate course work). The interest to pursue the M.S. en route to the Ph.D. degree should also be stated at this time. It is not necessary for all students to complete all requirements for the M.S. degree in order to qualify for admission into the Ph.D. program, although the student, with committee advice, may elect to complete the requirements for this degree in progress toward the Ph.D. Students bypassing the M.S. must meet all requirements for the M.S., except for preparing and defending a thesis.

A formal plan of study and research plan must be submitted by the student, the major professor, and the research committee.

Progress will continue with guidance from the research committee, and by the end of the second year the student should have completed the language/research tool requirements.

To be admitted to candidacy for the Ph.D. degree, the student must satisfy the above requirements and pass oral and written qualifying examinations.

After admission to candidacy, a substantial part of the program is devoted to an original research project which culminates in a dissertation. To be recommended for the Ph.D., the dissertation must be satisfactorily completed and defended at an oral examination.

Courses of Instruction in Pharmacy

Professors Brister, Jacknowitz, Lim, C. Malanga, J. Mauger, O'Connell, Riley, and Rosenbluth; Professor Emeritus Wojcik; Associate Professors Abate, Brushwood, M. Davis, Gwilt, Lively, Ma, Ponte, Stratford, and Waters; Assistant Professors D'Angio, Elliott, K. Fifer, Pau, Stout, and Wedin; Clinical Associate Professor Lowe; Clinical

Assistant Professors Bartsch, Clark, Della Valle, Gill, Hilligoss, Kelly, Lorenza, Midcap, Ott, Parker, Prettyman, and Stevenson; Clinical Instructors Alderman, Anderson, Anile, Bailey, J. Bovenizer, N. Bovenizer, Caplan, Carter, Cole, Coleman, Corkrean, Crawford, Criss, R. Davis, T. Davis, Deem, DeFazio, Dotson, J. Fifer, Frederick, Fruth, Gastineau, G. Gill, Griffith, Griffiths, Gryskevich, Heflin, Hickman, Holmes, Jackson, Jarvis, Johnston, Law, Lindsay, Logan, Lusk, M. Malanga, Martin, K. Mauger, McKeever, Menighan, Meredith, Miller, Muha, Orlando, Ottmar, Pawlak, Plummer, Plyburn, Reed, Ridgway, Ringer, Ritchie, Robinette, Scrivo, Shallis, Shaw, Slaven, Slevin, Stanley, R. Stout, Taylor, B. Thomas, J. Thomas, Tonkovich, Toompas, Van Meter, Viola, Weaver, Weekley, Yost, and Ziolkowski; Adjunct Professors Howard, Nematollahi, and O'Donnell; Adjunct Associate Professors Glover and Shah; Adjunct Assistant Professors Harper, Khoury, Kirsch, Poremba, Richardson, and Swisher; Adjunct Instructors Dalton, Goto, Krahulec, Schamroth, and Stone.

Pharmacy (Phar.)

200. *Preparation for Pharmacy Practice*. I. 3 hr. PR: First-year standing in pharmacy or consent. Pharmaceutical calculations, dosage forms, dispensing techniques, and an overview of pharmacy practice and career opportunities.
201. *Concepts in Pharmaceutics* 1. I. 3 hr. PR: First-year standing in pharmacy or consent. Concepts of a pharmaceutical system with emphasis on the physiochemical principles in formulations and dosage forms, primarily solutions and their calculations.
202. *Concepts in Pharmaceutics* 2. II. 4 hr. PR: Phar. 201 or consent. Special dosage forms, quality control, drug analysis, design and manufacture of pharmaceutical formulations and their conformity with Food and Drug Administration (FDA) regulations, especially good manufacturing practices.
203. *Concepts in Pharmaceutics* 3. I. 4 hr. PR: Phar. 202 or consent. Fundamentals of biopharmaceutics are presented. The kinetic, therapeutic, and dosage formulation-related aspects of drug absorption and disposition are discussed. Laboratories emphasize theoretical and practical problems in pharmacokinetics and bioavailability.
205. *Pharmacy Practice*. II. 4 hr. PR: Second-year standing in pharmacy or consent. Development of professional competence in the practice of pharmacy. Scientific principles underlying extemporaneous prescription compounding are applied to prescription problems. Problems arising in the dispensing of precompounded pharmaceuticals are studied.
207. *Introduction to Drug Literature*. II. 1 hr. PR: First-year pharmacy student or consent. To acquaint the student with the reference sources available to meet the drug information needs of pharmacists in the many different aspects of pharmacy practice, as well as those needed by other health practitioners.
211. *Sterile Products*. I, II. 3 hr. PR: Third-year standing in pharmacy. Broad view of the technology involved in sterilization and in the preparation and administration of sterile dosage forms. 2 hr. lec., 3 hr. lab.
212. *Non-Prescription Drugs*. I. 3 hr. PR: Second-year standing in pharmacy. Basis for self-medication, the therapeutic rationale for non-prescription drugs, and ethical principles as they apply to non-prescription drugs and appliances.
213. *Industrial Pharmacy*. I. 4 hr. PR: Phar. 202. Major aspects and principles of dosage form development and manufacture. Structure of industry and government influences. Laboratory experiences in manufacturing and development techniques.
214. *Cosmetic Formulation*. II. 3 hr. PR: Phar. 203. Introduction to principles and basic considerations of cosmetic formulations, including review of anatomy/physiology of skin. Laboratory exposes students to practical aspects of processing the most popular cosmetic products.

215. *Physical Pharmacy*. II. 3 hr. PR: First-year standing in pharmacy or consent. Designed to illustrate the special application of physiochemical properties of materials to pharmaceutical and physiological systems. Especially useful in delineating formulation considerations impinging upon the stability of complex systems.
216. *Hospital Pharmacy and Administration*. I. 3 hr. PR: Enrollment in the School of Pharmacy and consent. Basic concepts of the organization, management, and services of hospitals and pharmacist's role in the modern hospital. Emphasis on principles of hospital pharmacy administration and practice.
227. *The Pharmacist's Social Environment*. I. 2 hr. External factors which influence the practice of the pharmacist over which the pharmacist has little or no control, with emphasis on the psychosocial aspects and distributive systems.
228. *Pharmacy Practice and Legal Environment*. II. 4 hr. PR: Phar. 227 or consent. Continuation of Phar. 227 with emphasis on legal and health care delivery systems.
229. *Managerial Aspects of Pharmacy Practice*. I. 3 hr. PR: Phar. 227 and 228 or consent. Emphasis on decision making, planning, organization, personnel, information systems, risk factors, and financial aspects.
230. *Professional Aspects of Pharmacy Practice*. II. 3 hr. Emphasis on inventory control, pricing, communications, patient profiles and charges, and present and future role of pharmacist.
231. *The Pharmacist Proprietor*. I. 3 hr. PR: Senior standing in pharmacy. Pharmacist as a business owner; management theories and principles applied to the efficient operation of pharmacy.
232. *Social Aspects of Pharmacy*. II. 3 hr. Psychosocial aspects of pharmacists and patients in health care setting. Behavioral science factors which affect whether, why, or how medications and pharmaceutical services are used; role of pharmacist in health care.
233. *Current Developments in Pharmacy Practice*. II. 3 hr. PR: Third-professional-year standing, or second-professional-year by consent. Examines issues of current importance to contemporary pharmacy practice such as prepaid health insurance, peer standards review and organizations, degree and title granting, competency based relicensure and continuing education, and technicians' roles.
241. *Fundamentals of Pathophysiology*. II. 3 hr. PR: First-year standing in pharmacy or consent. Student is introduced to various disease states with emphasis on the pathophysiology underlying those diseases amenable to drug therapy.
243. *Chemotherapeutic and Immunobiologic Agents*. II. 3 hr. PR: Consent or second-year standing in pharmacy. Bacterial, viral, and parasitic infections; immunobiological methods of prevention, modification, and treatment; chemotherapeutic agents used in treatment; therapeutics and management.
245. *Pharmacotherapeutics 1*. I. 3 hr. PR: Second-year standing in pharmacy or consent. The application of pharmacodynamic, pharmacokinetic, and pharmaceutical principles in the treatment, diagnosis, and prevention of disease states.
246. *Pharmacotherapeutics 2*. II. 3 hr. PR: Phar. 245 or consent. A continuation of Phar. 245 in the application of pharmacodynamic, pharmacokinetic, and pharmaceutical principles in the treatment, diagnosis, and prevention of disease states.
249. *Drugs and Medicines*. I. 3 hr. (Not intended for pharmacy majors.) PR: General biology or consent. A course intended to introduce the nonhealth professional student to information about drugs and pharmaceutical preparations to include their source, administration, action, use and abuse.
250. *Ambulatory Care Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. A course giving extensive experience in the practice of pharmacy, emphasizing the pharmacist's relationship to ambulatory patients.

251. *Medical Team Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Students will participate on a health care team in an inpatient setting. Emphasis will be on pharmaceutical and drug advising, role of drug therapies in patient care, patient drug histories, and practitioner-patient communications.
252. *Institutional Care Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Extensive experience will be gained in the practice of pharmacy in institutional centers with emphasis on the pharmacist's relationship with institutional patients.
253. *Elective Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Students will elect to repeat a clerkship (Phar. 250, 251, 252). Emphasis will be on the further development of skills in the practice of pharmacy.
256. *Advanced Pharmacotherapeutics*. I. 3 hr. PR: Phar. 246 or equiv., and consent. The integration of pharmacological-therapeutic concepts in the study of treatment modalities and problems which may be encountered by the pharmacist in drug management of selected disease states.
260. *Principles of Medicine*. II. 2 hr. Those diseases about which the pharmacist should have sufficient knowledge for intelligent communication with the physician.
270. *Fundamentals of Medicinal Chemistry* 1. II. 3 hr. PR: First-year standing in pharmacy or consent. A relationship of the chemistry, structure, and physicochemical properties of drugs to their pharmacodynamic effects. Major portion devoted to basic principles followed by discussion in pharmacological classes.
271. *Fundamentals of Medicinal Chemistry* 2. I. 2 hr. PR: Phar. 270. Continuation of Phar. 270.
272. *Pharmacochemical Concepts of Drug Design*. II. 3 hr. PR: Phar. 271 or consent. Selected concepts of chemical approaches to the study of pharmacological and toxicological actions of drugs and their application to drug design.
276. *Pharmaceutical Quality Control*. II. 3 hr. PR: Second-year standing in pharmacy. Basic scientific principles in quality control of drugs and dosage forms, with particular attention to newer analytical techniques.
283. *History of Pharmacy*. I or II. 2 hr. Gives the student a deeper appreciation of the background of pharmacy and its development from ancient times to present.
284. *Public Health*. I or II. 2 hr. Measures required for the application of the pharmacist's knowledge, skill, and facilities to the promotion of the health and welfare of the public in cooperation with public and private health agencies.
285. *Radiopharmacy*. I. 3 hr. PR: Second-year standing in pharmacy or consent. Production and properties of radiation; detection of radiation; nuclear medicine instrumentation; the formulation, production, quality control, and use of radioactive materials and radiopharmaceuticals used in diagnosis and treatment.
287. *Seminar in Pharmaceutical Sciences*. I, II. 1-3 hr. PR: Consent. Presentation and discussion of special topics in pharmaceutical sciences.
289. *Pharmaceutical Investigations*. I, II, S 1-3 hr. PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacognosy, or pharmacy.
290. *Special Topics*. I, II. 1-4 hr.
298. *Clinical Pharmacy Specialties*. I, II, S. 3 hr. PR: Phar. 250, 251, 252, 253, and consent. Clinical pharmacy elective rotation on a selected medical specialty service. Rotations will be arranged upon approval by clinical pharmacy instructor and respective medical chiefs.
300. *Industrial Pharmacy*. I. 4 hr. Major aspects and principles of dosage form development and manufacture. Structure of industry and government influences. Laboratory experiences in manufacturing and development techniques.
301. *Advanced Biopharmaceutics*. I or II. 3 hr. Concepts of biopharmaceutics and pharmacokinetics in relation to the design and evaluation of dosage forms and determination of rational dosage regimens in health and disease.

314. *Cosmetic Formulation*. II. 3 hr. PR: Phar. 203. Introduction to principles and basic considerations of cosmetic formulations, including review of anatomy/physiology of skin. Laboratory exposes students to practical aspects of processing the most popular cosmetic products.
315. *Physical Pharmacy*. I or II. 3 hr. Designed to illustrate the special application of physiochemical properties of materials to pharmaceutical and physiological systems. Especially useful in delineating formulation considerations impinging upon the stability of complex systems.
370. *The Synthesis of Drugs*. I, II, S. 3 hr. PR: Chem. 332 and consent. A survey of the approaches employed in the synthesis of a variety of examples of pharmacologically useful agents. Emphasis is placed on retrosynthetic analysis of target molecules and the application of synthetic procedures to multi-step syntheses.
390. *Special Topics*. I, II, S. 1-4 hr.
391. *Seminar in Pharmaceutical Sciences*. I, II. 1 hr. PR: Consent. A multidisciplinary weekly presentation and discussion of special topics and research in the pharmaceutical sciences. (*Weekly attendance is required and grading is on an S/U basis only.*)
396. *Special Problems in Pharmaceutical Sciences*. I, II, S. 1-3 hr. Where special interest is shown by the student in an area other than of the student's thesis research, a faculty member will supervise individual study and research.
490. *Teaching Practicum*. I, II. 1-3 hr. PR: Graduate standing and consent. Supervised practices in college teaching of pharmacy.
491. *Advanced Study*. I, II, S. 1-6 hr. PR: Consent. Investigation in advanced subjects which are not covered in regularly scheduled courses. Study may be independent or through specially scheduled lectures.
494. *Special Seminars*. I, II, S. 1-6 hr. Special seminars arranged for advanced graduate students.
496. *Graduate Seminar*. I, II. 1 hr. PR: Consent. Formal presentation by graduate students to assembled graduate faculty and students of research or special topics approved by adviser. Title to be presented at start of semester. Required at least once annually. (*Grading is S/U.*)
497. *Research*. I, II. 1-15 hr.
498. *Thesis*. I, II, S. 2-4 hr. PR: Consent.

Pharmaceutical Chemistry (Ph. Ch.)

375. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Spectroscopic methods of analysis with emphasis on their applications in pharmaceutical problems and in biological sciences.
376. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Continuation of Ph. Ch. 375, with emphasis on electro-analytical methods and preparation of samples from pharmaceutical dosage forms and from biological materials.
377. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Physical-chemical principles involved in methods development. A special problem is assigned as an integral part of the course.

Pharmaceutics (Pceut.)

302. *Advanced Pharmaceutics*. I or II. 3 hr. Physiochemical and biopharmaceutical principles involved in disperse systems (liquid, semi-solid, and solid) which function as dosage forms. Considerations of properties of solid dispersions, micromeritics, diffusion of liquid dispersions, interfacial phenomena, emulsification, suspensions, prolonged action medication, etc.

Pharmacognosy (Pcog.)

- 340. *Organic Plant Constituents*. I or II. 3 hr. Occurrence, properties, biogenesis, etc., of a number of classes of organic compounds derived from plants. Emphasis on secondary metabolites which contain products of pharmaceutical or medicinal interest.
- 341. *Isolation of Plant Constituents*. I or II. 3-5 hr. Acquaints the student with techniques used in extraction, separation, and isolation of plant constituents.

Pharmacy Administration (Phar. Ad.)

- 320. *Drug Regulation and Control*. I or II. 3 hr. Legislation affecting the development, introduction, control, and utilization of drugs in the American economy.
- 321. *Drug Distribution Systems*. I or II. 3 hr. Detailed study and analysis of drug distribution in institutional environments.
- 323. *Economics of the Pharmaceutical Industry*. I or II. 3 hr. History, background, and formation of major drug industries. Oligopolistic practices, mergers, combines, costs of research, and production.

West Virginia University Hospitals, Inc.

For the past quarter century University Hospital provided the training ground for Medical Center health professionals, offering patients the best in medical care along with education for students and advancement of knowledge. In 1984 the hospital entered a new administrative era when the Legislature cut it loose from state operation and placed it under the ownership and direction of a not-for-profit corporation known as West Virginia University Hospitals, Inc. The hospital had needed major upgrading costing nearly \$50 million to meet new safety codes and other requirements, and lawmakers agreed a new hospital was the best answer. Construction started in 1985 and first patients are to be admitted by 1988.

The main medical and surgical hospital will be known as Ruby Memorial Hospital in honor of Mrs. Hazel Ruby McQuain and the late J. W. Ruby, a Morgantown industrialist. Mrs. McQuain contributed \$8 million, the largest philanthropic gift in West Virginia history, for the new hospital. In addition to the main unit, the hospital eventually will include psychiatric, children's, and ambulatory care buildings or wings.

Patients come to the hospital and its clinics from all parts of West Virginia, with 40 of the state's 55 counties represented on a typical day. They find expertise, experience and equipment or other resources sometimes not available elsewhere in the state, in such areas as laser surgery, pain control, bladder pacemakers, radiation therapy, pediatric surgery and cleft palate repair. More than 2,000 patients are seen weekly in the 50 clinics and the emergency department records some 35,000 patient visits per year.

University Hospital recently was awarded a major Robert Wood Johnson Foundation grant to develop a hospital-based program for the elderly. It was one of 25 hospitals nationwide chosen from among 320 applicants. Earlier the hospital's General Medicine Clinic won a \$783,000 Johnson grant to strengthen its service over a period of four years.

Radiologic Technology

A two-year program for radiologic technologists is offered by the Department of Radiology at University Hospital. This course covers anatomy and physiology, radiologic physics, quality assurance, radiographic procedures, pathology, medical terminology, computer literacy, nursing procedures, and professional ethics. Subjects taken do not carry WVU credit, but provision to transfer course work under the Board of Regents bachelor of arts program may be pursued. Clinical education is acquired on assigned tours of duty under the tutelage of staff members and clinical instructors.

Candidates must be graduates of accredited high schools with scholastic and personal records acceptable to the Admission Committee. All students are required to take either the American College Testing Program (ACT) tests or the Scholastic Aptitude Test (SAT) and have the report of scores sent to WVU prior to the admission decision. Students admitted on the basis of SAT scores must submit results of the ACT by the end of the first semester of their freshman year.

Students provide their own lodging and meals. Those completing the program are awarded a certificate and are eligible to take the American Registry Examination.

Communications should be addressed to: Coordinator, Radiologic Technology Training, Department of Radiology, West Virginia University Hospitals, Inc., Morgantown, WV 26506.

Dietetic Internship Program

The Dietetic Internship Program is offered by the Department of Nutrition and Dietetics of West Virginia University Hospitals, Inc. The internship is a 44-week generalist program providing learning experience in administrative and clinical dietetics, and is accredited by The American Dietetics Association. Upon successful completion of the program, the intern is recommended for membership in The American Dietetic Association and is eligible to complete the National Registration Examination.

Admission requirements are: completed bachelor's or advanced degree from an accredited college or university with courses meeting ADA Plan IV Program Requirements in general dietetics and at least a 2.75 overall grade-point average with a 2.25 in science courses and 3.0 in food and nutrition courses. Applications should reach the Internship Director by February 20. Appointments will be made in April for entrance in September.

Appointments to the program will be based on personal goals and expectations as identified in the letter of application, evidence of scholastic performance, work experience, extracurricular activities, scholastic honors received, letters of reference, and personal interview with the screening committee.

Communications should be addressed to:

Director of Dietetic Internship
West Virginia University Hospitals, Inc.
Department of Nutrition and Dietetics
Morgantown, WV 26506

Faculty and Staff

President's Cabinet

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Jayne Armstrong, *Student Body President*

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Stephen Broughton, D.D.S. (WVU), *Clinical Instructor in Community Dentistry*

Thomas C. Cady, LL.M. (U. Tex.), *Lecturer (part-time) in Dental Jurisprudence*

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 John Carson, D.D.S. (WVU), *Clinical Assistant Professor of Oral Surgery.*
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 Richard C. Kelly, D.D.S. (WVU), *Clinical Associate Professor (part-time) of Operative Dentistry.*
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William Marshall, D.D.S. (WVU), *Assistant Professor of Hospital Dentistry.*

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Jack R. Martin, D.D.S. (U. Md.), *Clinical Assistant Professor (part-time) of Orthodontics.*

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Gary G. Naylor, D.D.S. (WVU), *Clinical Associate Professor (part-time) of Operative Dentistry.*

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David T. Puderbaugh, D.D.S. (WVU), *Professor and Chairperson of Dental Practice Management.*

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Nancy V. Ramsey, M.S. (U. Mich.), *Adjunct Professor of Dental Hygiene.*

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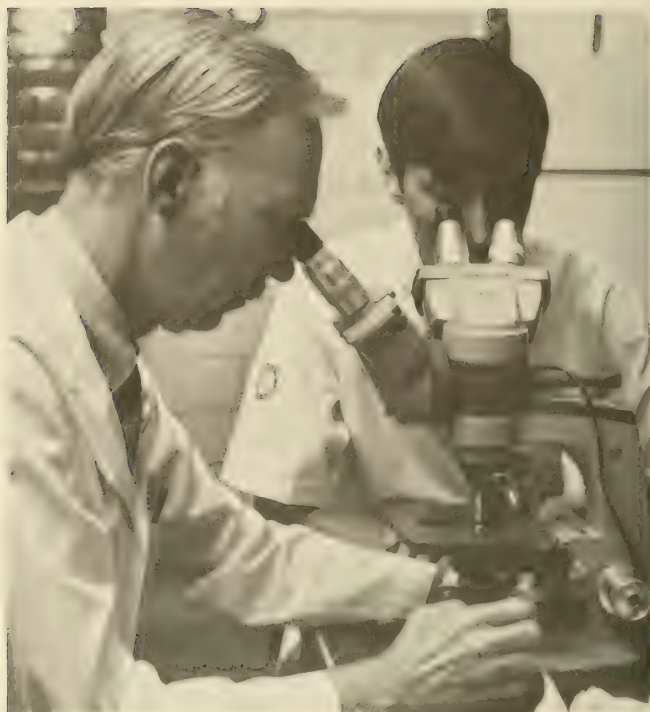
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UNIVERSITY CALENDAR, 1988-89

Summer Sessions, 1988

May 18, Wednesday	Registration, First Summer Session
May 18, Wednesday	First Classes
May 30, Monday	Memorial Day Recess
June 30, Monday	Final Exam for First Six-Week Session
July 1, Friday	Registration, Second Summer Session
July 1, Friday	First Classes
July 4, Monday	Independence Day Recess
August 12, Friday	Final Exam for Second Six-Week Session

First Semester, 1988-89

August 18, 19, Thursday and Friday	New Student Orientation
August 19, Friday	General Registration
August 22, Monday	First Classes
August 22, Monday	Late Registration Fee in Effect for All Students
August 26, Friday	Last Day to Register, Add New Courses, Make Section Changes, Change Pass/Fail and Audit
September 5, Monday	Labor Day Recess
September 12, Monday	Rosh Hashannah—Day of Special Concern
September 21, Wednesday	Yom Kippur—Day of Special Concern
October 7, Friday	Mid-Semester
October 11, Tuesday	Mid-Semester Reports Due
October 28, Friday	Last Day to Drop a Class
November 8, Tuesday	Election Day Recess
November 19, Saturday, to November 27, Sunday, inclusive	Thanksgiving Recess
December 8, Thursday	Last Day to Withdraw From University
December 9, Friday	Last Day of Classes
December 12, Monday, to December 17, Saturday, inclusive	Final Examinations
December 18, Sunday, to January 5, Thursday, inclusive	Christmas Recess

Second Semester, 1988-89

January 6, Friday	General Registration
January 9, Monday	First Classes
January 9, Monday	Late Registration Fee in Effect for All Students
January 13, Friday	Last Day to Register, Add New Courses, Make Section Changes, Change Pass/Fail and Audit
January 16, Monday	Martin Luther King, Jr. Birthday Recess
February 7, Tuesday (Not a Holiday)	West Virginia University Day
February 24, Friday	Mid-Semester
February 28, Tuesday	Mid-Semester Reports Due
March 4, Saturday, to March 12, Sunday, inclusive	Spring Recess
March 24, Friday	Friday Before Easter Recess
March 27, Monday	Last Day to Drop a Class
April 11, Tuesday	Faculty Assembly
April 20, Thursday	Passover—Day of Special Concern
April 27, Thursday	Last Day to Withdraw From University
April 28, Friday	Last Day of Classes
May 1, Monday, to May 6, Saturday, inclusive	Final Examinations
May 8, Monday	Grade Reports for All Graduates Due in Dean's Office
May 8, Monday	Dean's Reports for All Graduates Due in Office of Admissions and Records
May 13, Saturday	Alumni Day
May 14, Sunday	Commencement

The WVU academic year is divided into two semesters of about seventeen weeks each and two summer sessions of six weeks each.

West Virginia University Medical Center

The West Virginia Medical Center comprises four schools awarding undergraduate, graduate, and professional degrees in the health care fields. The Schools of Dentistry, Medicine, Nursing, and Pharmacy currently enroll 1,350 students in programs leading to 24 different degrees. The size and prestige of the schools demonstrate how commitment and hard work lead to change and growth.

The oldest complete programs offered at the Medical Center are the undergraduate programs in medical technology and pharmacy. In 1957, the Basic Sciences Building opened, and the School of Dentistry offered the first curriculum leading to a professional degree, marking the beginning of a pattern of growth that continues today. 1960 saw the opening of the University Hospital, the beginning of B.S.N. and M.S.N. programs through the School of Nursing, and the expansion of the School of Medicine from a two-year to a four-year, degree-granting medical college. During the '70s, agreements with the Charleston Area Medical Center and with the Ohio Valley Medical Center and Wheeling Hospital led to the opening of the Charleston Division and the Wheeling Division.

Today, the West Virginia Medical Center has more than 10,000 alumni in professional practice, including 2,600 physicians in clinical specialties. This history of growth is justifiably a source of pride; however, it is the present that generates excitement at the Center. 1988 marks the first full year of operations at Ruby Memorial Hospital, an \$87 million, 376-bed teaching hospital. From the helipad on the roof that brings the facility within physical reach of patients and physicians anywhere in West Virginia to the neonatal intensive care unit next to obstetrics, from the inpatient physical therapy satellite unit to the radiology equipment and the Mary Babb Randolph Cancer Center, this teaching hospital is prepared to teach tomorrow's health care practitioners.

With the surge toward high tech care made possible by the philanthropy of Mrs. Hazel Ruby McQuain, the Medical Center is resolved to retain the best qualities from its past as it adapts to the present and prepares for the future. Over the years, graduates of the School of Dentistry have routinely done very well on the clinical boards required for professional licensure to practice. The School of Nursing continues to offer extension programs at Parkersburg, Shepherdstown, and Beckley, helping professionals to keep their skills current in their fields.

The individual schools of the Medical Center are accredited by appropriate professional groups. Specifically, these include:

1. American Dental Association Commission on Dental Accreditation
2. Committee on Allied Health Education and Accreditation of the American Medical Association
3. American Council on Pharmaceutical Education.

Nonacademic policies and regulations affecting students are summarized in the *Student Handbook*. Students are urged to obtain a copy of the *Student Handbook* from the Division of Student Affairs, 205 Moore Hall.

The research arm of the Medical Center includes the graduate programs in anatomy, biochemistry, microbiology, pharmacology and toxicology, and physiology. Much of the research done in these departments is funded by the National Institutes of Health.

Dental Clinic

Clinical training and experience constitute a major part of the curriculum for dental and dental hygiene students. Facilities for dental and dental hygiene students include 160 treatment cubicles and all necessary related laboratories. Patients are accepted for treatment if their dental problems are of teaching value and if a student is available for assignment. The student is assigned to a patient and must work under close supervision of a faculty member. The clinic programs provide practical experience for the students and a much needed service to several thousand patients annually.

University Health Service

The University Health Service provides primary medical care for WVU students, faculty, and staff. Currently enrolled students who pay the Health Service fee and have a current ID card may use the service, which covers medical consultation and treatment at the Health Service on the Ground Floor of University Hospital. Patients requiring specialized care may be referred to the Outpatient Clinics at the Medical Center. The patient will be responsible for the fees thus incurred (registration charge, physician's fee office, x-ray, laboratory, etc.).

When the Health Service is closed, the Emergency Department is available for care. Costs incurred at the Emergency Department are the responsibility of the student. Informed and responsible use of this area is encouraged because most insurance policies cover such costs only if the visit was truly an emergency. A voluntary insurance plan is available to students to cover the cost of inpatient and outpatient services beyond primary care. Students are strongly advised to obtain such coverage. Details are available in a Health Service brochure.

Library

The Medical Center Library serves the students, faculty, and staff of the four Medical Center schools and the hospital. Its services are available to health professionals throughout West Virginia and, within certain guidelines, to the general public.

The library in the Basic Sciences Building contains more than 175,000 bound volumes. About 2,300 domestic and foreign periodicals are currently received.

The Medical Center Library and other University libraries maintain an active interlibrary loan service. Material not in WVU libraries may be borrowed from libraries in other cities.

The library is open, except on holidays, from 8:00 a.m. to 12 midnight, Monday through Thursday; from 8:00 a.m. to 11:00 p.m., Friday; from 9:00 a.m. to 6:00 p.m., Saturday; and from 1:00 p.m. to 11:00 p.m., Sunday. Changes in scheduled hours are posted in advance.

Admission to Center Programs

Applicants for admission to any of the schools of the WVU Medical Center should write to the Assistant Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506, requesting the appropriate application forms.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians, although outstanding nonresident applicants are considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

When requesting an application by letter for any of the Medical Center programs, the permanent home address must be given.

Dentistry and Medicine applications fees are \$30.00. Fees for all other WVU medical science programs are \$10.00 and must accompany the applications.

Any applicant who is refused admission, or who fails to enroll after acceptance, must re-apply in the regular manner if consideration for a subsequent year is desired.

Those applicants accepted for admission to any of the programs of the WVU Medical Center, except the Division of Dental Hygiene and out-of-state applicants to the School of Dentistry, are required to deposit \$50.00 before acceptance becomes official. Applicants accepted to the Division of Dental Hygiene deposit \$40.00, and out-of-state applicants accepted to the School of Dentistry deposit \$100. If the applicant enrolls in the program of the applicant's choice, the deposit is applied to the first-semester tuition.

If an application for admission to the School of Medicine is withdrawn after the applicant has been offered a place and has submitted a deposit, such deposit may be refunded any time before March 30 of the year in which enrollment is anticipated, but will not be refunded after this date. Deposits submitted to all other programs are nonrefundable.

It is required that during the first semester of the first year all WVU Medical Center students must complete certain prescribed immunization and diagnostic procedures.

Admission of Freshmen

Admission to West Virginia University is governed by policies established by the Faculty Senate, the University administration, and the West Virginia Board of Regents. All University admissions are governed by the following general policies:

1. The primary responsibility of the University is to the residents of the state of West Virginia. Consequently, preference is given to West Virginia residents in various admission processes.
2. Within the space available in specific programs, admissions are offered preferentially to those whose performance record indicates the highest probability of success in the chosen program.

Applications for admission are available at any West Virginia high school or from the Office of Admissions and Records, Box 6009, Morgantown, WV 26506-6009, telephone 304-293-2121. The toll-free numbers for the Office of Admissions and Records are 1-800-344-WVU1 (in-state) and 1-800-344-WVU2 (out-of-state).

Applicants must complete their part of the application and then return it to their current high school or the one from which they graduated. The school sends the completed application, an official transcript of the student's high school grades, and the course list for the senior year (for current seniors) directly to the WVU Office of Admissions and Records. All applications must include an official transcript from an accredited high school. Upon graduation, it is the student's responsibility to have a final official transcript with certification of graduation sent to the Office of Admissions and Records.

Some colleges, schools, and programs have admissions standards that exceed the minimum requirements listed here. These standards are listed in section 5 with the curricula and courses of the various schools.

General Credit Requirements

All applications must include an official transcript of the high school record. To be considered for admission to West Virginia University, an applicant must present the following high school credits:

English—4 units.

Biology—1 unit.

Social Studies—3 units.

Mathematics—2 units of college preparatory mathematics, one of which must be algebra (all students), 2 units of algebra and 1 unit of geometry for students wishing to enter any program requiring a specific math course for graduation.

Electives—8 additional units chosen from the areas of Fine Arts, Science, Mathematics, Computer Science, Foreign Languages, and Communication.

(No later than the Fall of 1990, 1 more unit of a laboratory science will also be required.)

Measles

The West Virginia Board of Regents now requires proof of measles and rubella immunization as an enrollment requirement of all first time freshmen at public colleges and universities in West Virginia. This requirement is fulfilled by an immunization record signed by a physician or an official copy of the permanent high school health record with report of the required immunizations. One of these documents must be transmitted to WVU before enrollment. Students seeking exemption from this requirement based on religious or medical reasons may contact the Office of Admissions and Records for information on filing an exemption.

Grade-Point Average (GPA); Test Score Requirements

For freshman admission, performance is measured by high school grade-point average and ACT or SAT test results. All students are required to take either the American College Testing (ACT) Program tests or the Scholastic Aptitude Test (SAT) and have the report of scores sent to West Virginia University before any admission decision or deadline. The following are minimum requirements. Selected programs may require a substantially higher grade-point average and/or test results.

West Virginia residents who satisfy the general credit requirements and have at least a 2.0 high school grade-point average **and** a composite ACT score of at least 16 or SAT total score of 740 are admitted to West Virginia University. Residents who satisfy the general credit requirements and have **either** at least a 2.0 high school grade-point average **or** a composite ACT score

of at least 16 or SAT total score of 740 are considered on an individual basis by the Admissions Review Committee.

High school seniors who rank in the upper 5 percent of their graduating class, have an ACT composite score of at least 28 or an SAT total of at least 1140, or are National Merit Semifinalists are admitted without regard to residence, assuming the student meets the general credit requirements.

General Educational Development (GED)

Applicants who have received a GED diploma less than five years before seeking admission to WVU will have to meet ACT or SAT and course requirements for admission. GED applicants must also supply a high school transcript.

Individual Consideration

Recognizing the need to accommodate certain students who would not otherwise qualify for admission, WVU may permit up to 5 percent of the admissions class (based on the previous year's class) to be admitted under an individual admission category. This category includes students who have exhibited exceptional aptitude or talent in art, music, writing, dramatics, or athletics. The educationally disadvantaged are also given consideration under this category.

All students who have graduated from high school or received a GED diploma more than five years before applying for admission to WVU and who have not attended another institution may have the requirement for ACT or SAT scores and course prerequisites waived at the discretion of the Office of Admissions and Records.

Special Students

Persons who are not candidates for a degree or who do not meet degree-program requirements may be admitted as special students. Such students are subject in all respects to the usual rules relating to registration and academic performance. Admission to any course or class is subject to the approval of the instructor in charge.

High School Specials

High school seniors desiring to take specific courses at WVU must present permission from their high school and from their parents and must have a minimum 3.0 grade-point average. Registration is limited to 6 credit hours per semester.

Admission of Veterans

Veterans may be admitted to WVU with less than the minimum admission requirements necessary for nonveteran applicants.

Information regarding educational opportunities made possible at the University through provisions of the Veterans Readjustment Benefits Act of 1966—G.I. Bill (Public Law 358), the Vocational Rehabilitation Program of the Veterans Administration (Public Law 16), and the War Orphan's Educational Assistance Act of 1956 (Public Law 634) may be obtained at a personal conference with a financial aid counselor at the Student Financial Aid Office in Mountainlair, or by mail (P.O. Box 6004, Morgantown, WV 26506-6004). In addition to these direct benefits to veterans, an amendment to Public Law 634,

enacted in 1964, provides benefits to many dependents of 100 percent disabled veterans. Information on this amendment is also available at the Student Financial Aid Office.

Veterans having at least one continuous year of active military service may receive advanced placement credit for General Physical Education 1 and 2. Proof of such military service must be presented to the Director of Admissions and Records for this advanced placement.

Admission of Transfer Students

Intrauniversity Transfers

Students transferring from Potomac State College of West Virginia University shall be considered intrauniversity transfers. Potomac State students are eligible for transfer as long as they meet the criteria for students in good standing at WVU. All records made at Potomac State College are part of the student's West Virginia University record, but no more than 72 hours of credits from Potomac State may be applied toward a baccalaureate degree at WVU. Students desiring to enter a specific degree-granting program have to meet all of that program's admission requirements.

Transfers from Accredited Institutions

Admission as a transfer student is available to those students who present evidence of 12 or more transferable credit hours from an accredited post-secondary institution. Applicants with fewer than 12 transferable hours of credit must apply for freshman admission. All applicants with fewer than 29 transferable credit hours are ranked as freshmen and must submit ACT or SAT scores and high school transcripts as part of their applications.

Students wishing to transfer with more than 58 hours of transferable credit should be admissible to a specific degree-granting program within the University before formal admission is granted. Individual consideration is given to a limited number of students with more than 58 transferable hours who do not meet specific major requirements.

Acceptance of students with 58 or fewer transfer credit hours into some areas (engineering, pre-business and economics, and pre-computer science) is determined by the number of available positions as well as the academic credentials of the student.

To be eligible to enroll as a transfer student at WVU, any student—regardless of residence—must present a minimum grade-point average of 2.0 in all college work attempted. Some individual programs, however, have higher grade-point average requirements.

Applicants for transfer from another college or university must submit a complete application for undergraduate admission and an official transcript of all college work attempted to date to the Office of Admissions and Records at least two months prior to the semester for which the applicant requests admission. An official transcript covering subjects subsequently taken must be sent before final admission is granted.

A complete application must include catalog pages from the institution attended, describing all subjects which have been or will have been completed. The applicant's name should be written on each page, and each subject must be indicated by a check mark in the margin. Complete catalogs should not be sent. *Catalog pages describing courses taken at West Virginia Board of Regents institutions need not be submitted.*

Credits and grades for those baccalaureate-level courses completed at any baccalaureate degree-granting institution in the West Virginia state system of higher education may be transferable toward a bachelor's degree, if appropriate to that degree. No more than 72 hours of credits and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia state system may be transferable toward a bachelor's degree, if appropriate to that degree.

Credits (though not grades) are transferable from institutions outside the West Virginia state system for courses carrying a grade of C or higher, if appropriate to the degree.

Credits from two-year community colleges and junior colleges outside the West Virginia state system are limited to 72 hours of lower-division courses. These colleges must be accredited by the North Central Association of Colleges and Schools or a similar regional accrediting association.

The transfer of credits does not exempt the student from satisfying all the requirements for the student's degree program at WVU.

Evaluation of transcripts for transfer of credit is furnished only after receipt of complete official transcripts and provisional admission to WVU. Therefore, a complete application and all transcripts must be in the Office of Admissions and Records two months in advance of registration.

Admission of Nonresidents

Nonresidents who satisfy the general credit requirements and have at least a 2.25 high school grade-point average and a composite ACT score of at least 18 or an SAT total score of 800 are *admitted*. Nonresidents who satisfy the General Credit Requirements and have at least a 2.25 high school grade-point average or a composite ACT of at least 18 or SAT total of 800 are *considered* on an individual basis by the Admissions Review Committee.

Transient

Students from other institutions who desire to take individual courses at WVU for transfer to their home institutions need only submit a statement of good standing from the last college attended.

West Virginia University students wishing to take courses at other institutions must seek advanced approval in writing. A cumulative grade-point average of at least 2.0 is required in order to obtain such approval. Credit will be accepted for transfer for courses carrying a grade of C or higher when the conditions indicated above have been met.

Admission of International Students

International students must comply with the academic requirements stated above and these additional academic and nonacademic requirements:

English Proficiency

All international applicants whose native language is not English must submit Test of English As a Foreign Language (TOEFL) scores. A minimum of 550 is required for admission. *NOTE:* In certain programs, provisional admission is possible for students with scores lower than 550 on the TOEFL. In such cases, students are admitted provisionally on the basis of their academic record, contingent upon submission of satisfactory TOEFL scores or satisfactory completion of the WVU Intensive English Program.

Credentials

Complete and original official records of all studies undertaken by an applicant at any institution attended in another country (secondary school, college, university, technical school, etc.) must be provided at the time of application for admission. Copies of original records are acceptable, provided they are stamped as true copies of the original records.

Such records should include: (1) complete dates of attendance; (2) identification of individual subjects; (3) total number of hours in each class per week; (4) total number of weeks each class meets in session; (5) final grade in each subject, for each year; (6) actual credits earned for each subject; (7) class, division, or rank achieved; (8) identification of the individual; (9) explanation of each institution's grading system; and (10) certification, and date, of degree or awards achieved. If any of this information cannot be supplied, an official explanatory statement from the school should be submitted. *All documents must be accompanied by certified English translations.*

All documents should be forwarded directly from the registrar or other authorized official of the previously attended school to the WVU Office of Admissions and Records, P.O. Box 6009, Morgantown, WV 26506-6009 USA.

If an applicant is currently enrolled in a school, tentative admission may be granted on the basis of an incomplete record which indicates the applicant will unquestionably meet the admission standards. Final admission, however, cannot be approved until the complete record has been received and evaluated. No student should move to Morgantown without having received an assurance of admission to WVU from the Office of Admissions and Records.

Admission under Special Conditions

Readmission

Undergraduate students who have left the University for at least one complete semester are required to submit an application for readmission to the Office of Admission and Records. Decisions on readmission are based on the student's WVU record together with the record earned at any other institution the student might have attended after leaving WVU. Students in good standing based on a combination of these records are eligible for readmission.

Students who have been suspended from the University must have written approval from the dean of the school or college to which they wish to be admitted before an application for readmission is submitted.

Academic Forgiveness Policy

The Academic Forgiveness Policy allows a second chance to students who were unsuccessful in their initial higher education enrollment.

If a student has not been enrolled at a West Virginia Board of Regents institution for at least five calendar years and has not been enrolled in any other academic institution of higher learning during those five years, then the student may be eligible for admission or readmission to WVU under the Academic Forgiveness Policy.

The conditions and rules of the Academic Forgiveness Policy are as follows:

a. Admission to WVU under the Academic Forgiveness Policy is conditional upon satisfying the above stated non-enrollment period. In addition, a

recommendation that the student be admitted under the Academic Forgiveness Policy must be submitted by the dean of the college or school that the student plans to enter, and the recommendation must be approved by the Office of the Vice President for Academic Affairs.

b. Upon admission to WVU under this policy, the student will be credited with the hours earned for courses completed with a grade of D or higher.

c. Grades earned during any prior enrollment period will not be counted for purposes of calculating the student's grade-point average, but grades earned will remain on the student's permanent record.

d. The student must meet and complete all course work required to meet the college's or school's requirements for graduation, but under no circumstances after the student has been admitted under the Academic Forgiveness Policy shall the student complete fewer than 64 credit hours prior to earning his/her degree.

e. A student admitted to WVU under this policy will follow all regulations regarding probation, suspension, and expulsion.

Admission of Post-Baccalaureate Students

Students possessing one or more earned degrees from an approved college or university and desiring to enroll for undergraduate credit may be admitted as post-baccalaureate students. Students admitted in this category are not working toward a graduate degree and credit earned while under this classification is limited to undergraduate credit. Post-baccalaureate students enrolling in undergraduate courses are assessed undergraduate fees. Candidates for admission to this classification who are not graduates of WVU must submit an official transcript from the institution granting their latest degree.

Second Bachelor's Degree

Persons desiring to obtain a second bachelor's degree must submit an undergraduate application. In general, admission will be granted on the basis of a cumulative grade-point average of at least 2.0 in the first baccalaureate degree. Selected majors have higher requirements, i.e., Engineering, and Business and Economics.

Graduate Credit Via Senior Petition

Undergraduate students wishing to obtain graduate credit through senior petition must obtain the standardized permission form from the Office of Admissions and Records. This form requires the signatures of the student's undergraduate adviser and the head of the unit offering the graduate course.

The policies regulating an undergraduate's enrollment in a graduate-level course for graduate credit are:

- Enrollment is only permitted in courses numbered 300-399.
- The undergraduate must be within 12 credit hours of his/her baccalaureate degree and have a grade-point average of 3.0 on a 4.0 scale.
- The maximum amount of graduate credit permitted by senior petition is 12 credit hours.
- The senior petition must be approved prior to or at the time of enrollment.

Approved senior petitions are returned to the Office of Admissions and Records so that a notation of graduate credit may be placed on the student's transcript. Any exceptions to the regulations must be approved by the dean of the school or college in which the student seeks graduate credit.

Note: A student receiving graduate credit for a course does not receive credit toward an undergraduate degree for the same course.

Academic Information

Student Responsibility

The student is responsible for knowing his/her own scholastic standing in reference to the published regulations and standards of West Virginia University. This responsibility not only includes regulations of the college or school in which the student is enrolled but also regulations or requirements of the student's department or division in which the student is seeking a degree.

Regulations Affecting Degrees

Listed below are the degree programs and the degree titles that are available at the West Virginia University Medical Center.

Health Sciences Programs At West Virginia University

Degree Program	Bachelor	Master	Doctorate
School of Dentistry			
Dental Hygiene	B.S.		
Dentistry			D.D.S.
Endodontics		M.S.	
Orthodontics		M.S.	
School of Medicine			
Anatomy		M.S.	Ph.D.
Biochemistry (Medical)		M.S.	Ph.D.
Medical Technology	B.S.	M.S.	
Medicine			M.D.
Microbiology (Medical)		M.S.	Ph.D.
Pharmacology and Toxicology		M.S.	Ph.D.
Physical Therapy	B.S.		
Physiology (Medical)		M.S.	Ph.D.
Biomedical Sciences			Ph.D.*
School of Nursing			
Nursing	B.S.N.	M.S.N.	
School of Pharmacy			
Pharmaceutical Sciences		M.S.	Ph.D.
Pharmacy	B.S.Pharm.		
University Hospital			
Medical Graduate Residencies			
Radiologic Technology	Certificate		

*Awarded under the auspices of the degree-granting authority of West Virginia University, but in cooperation with the Basic Sciences Departments of the Marshall University School of Medicine. (For details, see the WVU Graduate Catalog or the Marshall University Graduate Catalog.)

All degrees are conferred by the Board of Regents upon recommendation of the faculties of the various colleges and schools. Degrees are granted at the close of the semester or summer session in which the students complete their work.

Candidates for degrees are eligible for graduation when they complete the requirements in the college or school in which they are registered which were in effect at the time of their first registration in that college or school, provided they graduate within a period of seven years from the time of their first registration. Students who do not complete the requirements for graduation within seven years from their first registration must meet *all the conditions of a later Catalog* — one that will be no more than seven years old by the time they graduate.

If there are major changes in the *Undergraduate Catalog* during the student's course of study, the student does not have to abide by them unless they are promulgated by the Board of Regents, or by local, state, or federal law. However, by choice and with the approval of the adviser and the dean, a student may meet *all the conditions* of a later *Undergraduate Catalog* than that under which the student first registered in that college or school.

All candidates for degrees at WVU must report to their academic advisers and fill out an "Application for Graduation and Diploma." Application must be made during the first month of the semester or session in which the candidate expects to be graduated.

University policy provides that, in view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of WVU the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

No degree will be conferred upon any candidate and no transcripts will be issued to any student before payment is made of all tuition, fees, and other indebtedness to any unit of the University.

Baccalaureate Degrees

Credits Required

In addition to the University requirements listed in this catalog, each baccalaureate degree is conditional upon the completion of a specified number of semester hours of credit, as determined by the student's degree program requirements. Therefore, students must familiarize themselves with their school and degree program requirements.

University Requirements

West Virginia University believes that its baccalaureate graduates, in addition to developing competence in major and minor fields of study, should be broadly educated. The University's goal is to prepare its graduates to integrate knowledge from a wide variety of fields and to value the continuing search for breadth of knowledge; to be creative and open to new ideas; and to be able to deal constructively with the technological, cultural, and social changes that challenge us in our own country and in the world. In order that West Virginia University graduates may be able to adapt to changing circumstances throughout a lifetime of learning, the Liberal Studies Program (LSP) helps students to learn how to acquire knowledge, how to make critical

judgments in a logical and rational manner, and how to communicate their findings clearly. The program encourages students to appreciate the past; to value lasting traditions; to accept their responsibilities as citizens of a free society; to respect the traditions, values, and individuality of fellow human beings; to broaden their knowledge about people different from themselves, whether by reason of nationality, age, class, gender, or race; and to understand the basic concepts and principles of mathematics and the sciences.

Therefore, West Virginia University baccalaureate graduates are expected to possess knowledge and experience in three broad clusters of learning: the arts and humanities, the social and behavioral sciences, and mathematics and the natural sciences. In the arts and humanities, students learn to understand and appreciate the human experience. In the social and behavioral sciences, students develop an awareness of personal, interpersonal, and societal forces that shape individual lives. In mathematics and the natural sciences, students acquire an understanding of the unifying principles and methods of science and their applications to natural phenomena. University graduates also are expected to be able to communicate effectively in the written English language and to possess skills in post-high-school mathematics.

Liberal Studies Program

West Virginia University Liberal Studies Program requirements for all students who receive the baccalaureate degree are divided into a skills component and a distribution component.

A. Skills Requirements

All students must successfully complete English 1 and 2. This requirement is in addition to the Cluster A requirements described in Section B below. All students must successfully complete at least one course that requires a substantial writing component and in which the grade is partially determined by writing skills. These courses will be designated by a "W" in the *Schedule of Courses*. Students must complete English 2 before fulfilling the "W" requirement.

All students must successfully complete at least 3 hours of mathematics or statistics at the college algebra level or above. This requirement is in addition to the Cluster C requirement described in Section B below. These courses are approved for the mathematics skills requirement: Mathematics 3, 4, 11, 14, 15, 16, 23, 28, 128, 131, and 168; Economics 125; Statistics 101.

B. Distribution Requirements

The University courses in the LSP that provide students with broad liberal knowledge and experience will be grouped into three Clusters.

Cluster A includes the humanities and fine arts. The study of humanities develops knowledge of and appreciation for the accumulated wisdom and experience contained in world literature, history, fine arts, religion, and philosophy, with the objective of bringing the student to an active consciousness of the living, operating, and continuing values of human culture.

Cluster B includes the social and behavioral sciences. The sciences develop in students the knowledge and appreciation of both themselves and the world in which they live. Through the study of anthropology, economics, geography, linguistics, political science, psychology, sociology, and communication studies, students are able to comprehend major concepts, evaluate movements and ideas, and anticipate future trends in societies both at home and abroad.

Cluster C includes the natural sciences and mathematics. Courses in the natural sciences and mathematics provide information about the natural world and a perspective on how an understanding of the natural world is developed. Educated persons should have a knowledge of the physical, chemical, geological, and biological entities and processes that constitute the natural world. Courses in mathematics, statistics, and computer science can provide the technical tools for an understanding of the natural world, as well as an understanding of the methods and value of mathematics considered as a discipline in itself.

Cluster A requirements: 12 hours of Cluster A courses must be successfully completed, distributed according to the following provisions:

- Courses must be successfully completed in three disciplines.
- Two courses must be successfully completed in the same discipline.
- Two foreign language courses may be used to fulfill Cluster A requirements only if they cover the same language. Language courses in a student's native language may not be used to fulfill Cluster A requirements.
- No more than one multidisciplinary studies (MDS) course may be used to fulfill Cluster A requirements.

Cluster B requirements: 12 hours of Cluster B courses must be successfully completed and distributed according to the following provisions:

- Courses must be successfully completed in three disciplines.
- Two courses must be successfully completed in the same discipline.
- No more than one multidisciplinary studies (MDS) course may be used to fulfill Cluster B requirements.

Cluster C requirements: 11-12 hours of Cluster C courses must be successfully completed and distributed according to the following provisions:

- Courses must be successfully completed in two disciplines.
- At least one course must include a laboratory.
- No more than one multidisciplinary studies (MDS) course may be used to fulfill Cluster C requirements.

Three hours of work in either Cluster A or Cluster B must focus substantially on the study of a foreign or minority culture or cultures or on women and/or issues of gender.

Inventory of LSP Courses

The courses listed below in Clusters A, B, and C do not constitute an inclusive listing. The Liberal Studies Committee will be changing the list of courses as evaluations are continually made of courses submitted to the LSP committee for its approval. Students and advisers should consult the latest *Schedule of Courses* for the most recent inventory of courses included in the Liberal Studies Program. An asterisk precedes the course numbers for those courses which satisfy the foreign culture, minority, or gender studies requirement.

Cluster A Courses:

Art 30, 105, 106.
Arab. 1, 2, 3, 4.
Chin. 1, 2, 3, 4.
Class. 1, 2, 3, 4, 11, 12, 13, 14, 101, 102.
Comm. 21, 187.
English (Engl.) 21, 22, 24, 25, 30, 35, 36, 40, *80, *85, 125, 130, 131, 132, 133, 134, 141, 143, 150, 170, 171, 172, 175, 178, 180, 181, *186, *188.
Frch. 1, 2, 3, 4, 10, 11.

FLIT *13, *14, *15, *16, *17, *18, *111, *112, *121, *122, *131, *132, *141, *142, *151, *152, *161, *162, *171, *181, *182, *188, *189.

Ger. 1, 2, 3, 5, 10, 11.

Hist. 1, 2, *5, *6, 11, 12, 52, 53, 100, 101, 103, 105, 107, 109, *117, *118, 119, 120, *121, 122, 155, 156, 157, 159, 161, 177.

Hum. 1, 2, 3, 4, *5, 10, 11.

Ital. 1, 2, 3, 4.

Japan. 1, 2, 3, 4.

L. Arc. 112.

Lingu. 3.

MDS *40, 91.

Music 30, 33, 34, 129, 136, 137, 138.

Phil. 1, 2, 3, 4, 10, 13, 15, 20, 103, 105, 106, 108, 111, *113, 120, 121, *122, 123, *125, 150, 158, 159, 161/Math. 161, 166, 171, 172, 187.

Polsh. 1, 2.

Port. 1, 2, 3, 4.

Relig. 5, 100, 101, 102, 103, 104, 105, 110, 111, 112, 120, 121, 128, *130, *131, *132, 142, 150.

Russ. 1, 2, 3, 4.

Span. 1, 2, 3, 4, 10, 11.

Theat. 30.

Wm. St. *40.

Cluster B Courses:

CDFS 10.

Comm. 11, 80, 109, *134, 135, 180.

Econ. 51, 54, 55.

For. 140.

Geog. 1, 2, 8, 105, 109, 110, 140, 141, 143, 144, 145.

Hist. *4, *141, *142.

Journ. 1.

Lingu. 1.

MDS 2, *40, 50, *60, 70, 90, 91, 92.

MER 97.

Pol. S. 1, 2, 3, 7, 110, 120, *137, *150, *151, 160

Psych. 1, 151, *170.

Res. M. 1.

Soc. & A. 1, *5, 7, *51, 121, 122, 123, 125, 131, 132, *135, 136, 137, *138, 140, *145, 152, *156, 157, 158, *160, 162.

Rc. & Pk. 43.

Wm. St. *40.

Cluster C Courses:

Ag. Mi. 141.

Biol. 1, 2, 3, 4.

Chem. 11, 12, 15, 16, 17, 18.

C.S. 1, 5.

Econ. 125.

Geog. 7, 107.

Geol. 1, 2, 3, 4, 7.

HN&F. 71.

Math. 3, 4, 11, 14, 15, 16, 23, 28, 128, 131, 168.

MDS 2, 60, 70, 90, 91.

Phil. 11.
Phys. 1, 2, 7, 8, 11, 106.
P. Sci. 11, 12.
Stat. 101

Approved 200-Level Courses

No 200-level courses are included in Clusters A, B, and C because they are not ordinarily appropriate for the Liberal Studies Program. However, a student may petition to take one 200-level course from the list of approved 200-level courses indicated below, in fulfillment of the LSP requirement for each of the three cluster areas. The student must petition through his/her adviser for approval. This can be accomplished with the use of a standard petition form filled out by the student, approved by the adviser, and placed in the student's file.

Cluster A Courses:

Communications Studies 230.
English 211, 220, 235, 236, 240, 250, 255, 256, 261-268, *288.
History 200, 204, 205, 206, 207, 208, 214, *225, *226, 231, 232, *245, *246, *251, *252, 253, 259.

Cluster B Course:

Communications 221.
Economics 211.
History 208, 211, *227, *229, *230, 259.
Health Education *290.
Social Work *247.
Political Science *235, *250, *251, *254, *255, *256, *258.

Academic Advising and General Studies Status

Advisers

All students entering WVU are assigned academic advisers, who assist students in preparing schedules, assign them to classes, and certify their study lists to the Director of Admissions and Records. The advisers are expected to give such advice and sympathetic guidance as the students may need in their work at the University. Students are expected to go freely to their advisers to discuss problems.

Advisers, upon receipt of reports of excessive numbers of absences, shall have conferences with the student concerned and shall make such recommendations and adjustments as are desirable and feasible. If the adviser does not find a satisfactory solution after a conference with the student, the case shall be reported to the dean of the college or school.

Students admitted to programs in the Colleges of Agriculture and Forestry, Creative Arts, Engineering, Mineral and Energy Resources, the School of Physical Education, and the Division of Dental Hygiene may enroll directly in the appropriate degree program.

The Colleges of Arts and Sciences and Human Resources and Education and the School of Social Work admit students to pre-programs in their majors. Students are assigned special academic advisers who will help them until they fulfill all requirements for admission to a degree program.

Other students may begin their work in one of the University's pre-programs, e.g. pre-Business and Economics, pre-Journalism, pre-Medical Technology, pre-Nursing, pre-Pharmacy, and pre-Physical Therapy. Normally,

completion of 30-68 credits and a specific curriculum are required before admission to a degree program is granted. Students enrolled in these pre-programs are advised in the University Advising Center, where full-time professional advisers are available in each of these areas.

Students who are undecided about their major may enroll in General Studies. This possibility provides the undergraduate student with an opportunity to explore several career and academic program options before selecting a specific major or program of study. While examining options, students enroll in courses that fulfill University requirements for graduation and provide a solid liberal arts foundation. A student may remain in General Studies through four semesters of college course work or until admitted to a degree program. Students selecting General Studies are advised in the University Advising Center. Advising Center staff also provide services to part-time and special (non-degree) students.

Branch, Community, and Junior Colleges

Seventy-two hours of credits and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia system of higher education may be applied toward a baccalaureate degree at WVU. Transfer credit for college-parallel courses completed at other community colleges and junior colleges may not exceed 72 hours. Transfer credit from community colleges and junior colleges is normally limited to lower-division courses.

Requirements As to Residence

A student who comes to WVU from another college or university should transfer not later than the beginning of the third year. In no case will a student who matriculates at WVU later than October 1 in any year be permitted to receive a degree at the next commencement.

In special cases, students who desire to leave WVU at the close of their third year to enter another institution for the purpose of taking a combined course leading to two degrees or of preparing for graduate study, upon application beforehand to the Committee on Academic Standards of the college or school in which they are registered, may be permitted to do the work of the fourth year, or a part thereof, at such other institution and to receive the bachelor's degree from WVU upon presentation of the proper credits.

The transfer student whose undergraduate work has been altogether in institutions within the West Virginia state system of higher education must complete either the last 30 hours of work, or a minimum of 36 hours including 16 of the last 32 hours in residence. Other transfer students must complete either a total of at least 90 hours or the last 30 hours in residence at WVU. The transfer student may be required to earn up to 15 hours in the major field in residence regardless of the number of hours and the nature of the courses transferred.

Work Done Out of Residence

WVU policy discourages taking regular residence courses in absentia. In the case of courses begun at WVU and not completed because of illness or for other acceptable reasons, however, permission to complete the work in absentia under the direction of regular WVU instructors may be granted by the Committee on Academic Standards of the college or school concerned; but in such case credit should be given only upon a report of a grade of no less than

C on final examination. This regulation does not apply to WVU off-campus courses.

If the final grade of a student in any course is F, the student must take the course again in residence at WVU if the student desires to receive credit for it, unless the dean of the college or school authorizes the exception.

A student currently enrolled in WVU who wishes to obtain credit toward a WVU degree for courses offered at other institutions should obtain advance approval in writing from the adviser, dean, and the Director of Admissions and Records. Some courses at some institutions are not directly transferable to WVU and, thus, the student runs the risk of losing such credit unless prior approval has been obtained. A student wishing to transfer credit from another institution should also be aware of the "Requirements As to Residence" and the specific degree requirements described elsewhere in this *Catalog*. Transfer credit from institutions outside the West Virginia state system will be accepted only for courses carrying a grade of C or higher when conditions indicated above have been met.

A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at WVU upon readmission to the University. After one semester of satisfactory performance (C average or better on a minimum of 12 credit hours earned during the regular semester or during the summer sessions) the appropriate transfer credit will be entered into the student's record upon certification by the adviser and dean that the above conditions have been met.

Substitution for Required Courses

A student who desires to substitute another course for a course prescribed in the student's curriculum or required for the degree toward which the student is working must obtain permission for such substitution from the Committee on Academic Standards in the student's college or school.

Advanced Credit

West Virginia University encourages students to work to their full capacity and to advance as rapidly as appropriate in their academic work. A number of opportunities are open to both qualified high school juniors and seniors, as well as to adults returning to school after an interval of work or military experience, to demonstrate competence beyond that normally associated with graduation from high school.

Advanced Placement Program

High school students who take college-level subjects offered in their schools in cooperation with the College Entrance Examination Board (CEEB) Advanced Placement Program should take the appropriate three-hour examinations administered by the Advanced Placement Service and have the scores sent to WVU. Credit for corresponding WVU courses will be given for high achievement on these tests.

To insure receipt of advancement placement credit, students should verify their test scores with Admissions and Records. (*See table on page 22.*)

Advanced Placement Program

Subject	Test Score	WVU Equivalent
ART:		
Studio Art	3	To be determined by Division of Art
Art History	3	To be determined by Division of Art
BIOLOGY	3	Biol. 1 and 2 (8 hr.)
CHEMISTRY	3	Chem. 15 and 16 (8 hr.)
COMPUTER SCIENCE	3	Non-specific C.S. 3 hr. (Test A) Non-specific C.S. 6 hr. (Test A & B)
ENGLISH:		
English Lang. & Comp.	3	Engl. 1 (3 hr.)
English Lang. & Comp.	4 or 5	Engl. 1 and 2 (6 hr.)
Lit. & Comp.	3	Engl. 35 (3 hr.)
Lit. & Comp.	4 or 5	Engl. 35 and 36 (6 hr.)
FOREIGN LANGUAGES:		
French Lang.	3	Fr. 103 and 104 (6 hr.)
French Lit.	3	Fr. 191 (3 hr.)
German Lang.	3	Ger. 103 and 104 (6 hr.)
Latin—Vergil	3	Class. 191A (3 hr.)
Latin—Catullus-Horace	3	Class. 191B (3 hr.)
Spanish Lang.	3	Span. 103 and 104 (6 hr.)
Spanish Lit.	3	Span. 191 (3 hr.)
HISTORY:		
European	3	Hist. 2 (3 hr.)
American	3	Hist. 52 and 53 (6 hr.)
MATHEMATICS:		
Math., Test AB	3	Math. 14 (4 hr.)
Math., Test AB	4 or 5	Math. 15 (4 hr.)
Math., Test BC	3	Math. 15 (4 hr.)
Math., Test BC	4 or 5	Math. 15 and 16 (8 hr.)
MUSIC	3	To be determined by Div. of Music
PHYSICS:		
Phys., Test B	3	Phys. 1 (4 hr.)
Phys., Test B	4 or 5	Phys. 1 and 2 (8 hr.)
Phys., Test C	3	Phys. 11 (4 hr.)
Phys., Test C	4 or 5	Phys. 11 and 12 (8 hr.)

NOTE: Students receiving AP credit for any Physics course will have to register for and complete the corresponding physics labs by special arrangement with the Department of Physics.

Credit by Examination (CLEP)

Applicants for admission to the University, especially those who have gained a significant level of maturity through their life experiences, may gain college credit for their educationally related experiences through the College Level Examination Program (CLEP) of the CEEB. The policy of the West Virginia Board of Regents allows University credit to be awarded for successful completion of any of the CLEP Subject Examinations, except English composition, and freshman English, as well as allowing up to 34 hours

of general education credit for successful performance on the CLEP General Examinations. Although the program is designed primarily for adults, exceptionally well qualified high school seniors may find it advantageous to seek advanced standing via the CLEP program. Interested applicants may write the Director of Admissions and Records for further information regarding the CLEP program and WVU credit. (*See table below.*)

College Level Examination Program

General Examinations	WVU Equivalent	Minimum Score Required
English Comp. (with essay)	English 1 (3 hr.)	590
English Comp. (multiple choice)	No credit	
Humanities	Untranslated LSP A (6 hr.)	500
Mathematics	Untranslated LSP C (4 hr.)	500
Natural Sci.	Untranslated LSP C (6 hr.)	500
Social Sci. & Hist.	Untranslated LSP B (6 hr.)	500
Subject Tests:		
American Lit.	Engl. 24 (3 hr.)	59
Analysis & Interpret. of Lit.	Engl. 35 (3 hr.)	59
College Comp.	No credit	—
English Lit.	English 22 (3 hr.)	60
Freshman Engl.	No credit	—
College French (levels 1 and 2)	Fr. 1 and 2 (6 hr.)	44
	Fr. 3 and 4 (6 hr.)	55
College German (levels 1 and 2)	Ger. 1 and 2 (6 hr.)	43
	Ger. 3 and 4 (6 hr.)	54
College Spanish (levels 1 and 2)	Span. 1 and 2 (6 hr.)	45
	Span. 3 and 4 (6 hr.)	54
American Govt.	Pol. Sci. 2 (3 hr.)	50
American Hist. I	Hist. 52 (3 hr.)	49
American Hist. II	Hist. 53 (3 hr.)	49
Western Civilization I	Hist. 1 (3 hr.)	50
Western Civilization II	Hist. 2 (3 hr.)	50
Educational Psychology	Ed. P. 103 (3 hr.)	49
General Psychology	Psych. 1 (3 hr.)	50
Human Growth and Development	CD&FS 10 (3 hr.)	51
Intro. Macroeconomics	Econ. 55 (3 hr.)	50
Intro. Microeconomics	Econ. 54 (3 hr.)	50
Intro. Sociology	Soc. & A. 1 (3 hr.)	50
College Algebra	Math. 3 (3 hr.)	48
Trigonometry	Math. 4 (3 hr.)	54
College Algebra/Trig.	Math. 14 (4 hr.)	50
Calculus with Elementary Functions	Math. 15 (4 hr.)	49
General Biol.	Biol. 1 and 2 (6 hr.)	49
	(no credit for the labs)	
General Chem.	Chem. 15 (4 hr.)	50
Computers and Data Processing	C.S. 1 (4 hr.)	49
Intro. to Management	Manag. 105 (3 hr.)	50
Intro. Accounting	Acctg. 51 and 52 (6 hr.)	54
Intro. Business Law	B. Law 111 (3 hr.)	51
Intro. Marketing	Mrktg. 111 (3 hr.)	50

Advanced placement also may be granted for specific military experience. Returning veterans should consult the Director of Admissions and Records for details.

Newly admitted students may elect to take examinations demonstrating their competence in particular course work. Credit or advanced placement is given for satisfactory completion of the tests. Students interested in challenging courses by examination should consult their advisers for procedures and details. *(See table on page 23.)*

Credit by Examination

Students actively enrolled in WVU may receive credit for courses demonstrating competency in the content covered by a particular course. The department responsible for administering the course will determine the evaluation tools. Where skill and cognitive abilities are components of the course, both will be evaluated. Credit will be given if a satisfactory degree of competency is demonstrated.

A college, school, or department may require students desiring such credit to prepare a self-evaluation statement determining the degree of competency they possess and the methods by which it was achieved.

Students interested in receiving credit for a course by examination should consult the college or school in which the course is offered for procedures and details.

Credit for Correspondence Work

Credit up to a maximum of 30 semester hours for work completed by correspondence in nonlaboratory courses is accepted by WVU when such work is given by accredited colleges or universities that accept work for credit toward their own degrees and whose residence work is accepted by WVU.

Second Bachelor's Degree

A student who has received one baccalaureate degree and wishes to receive a second baccalaureate degree must satisfactorily complete enough additional credits so that the total, including all acceptable credits earned at WVU and elsewhere, is at least 30 semester hours more than the number required for the first baccalaureate degree; all requirements, departmental and otherwise, of the second baccalaureate degree program must be satisfied. In no case will a second baccalaureate degree be awarded to a student who has not met the University residence requirement (see "Requirements As to Residence").

A student who wishes to receive simultaneously two baccalaureate degrees must satisfactorily complete a minimum of 158 credits and meet all requirements, departmental and otherwise, of both degree programs. Students desiring to receive simultaneous baccalaureate degrees must be admitted to both programs. In addition, the student must provide the Office of Admissions and Records proof that he/she has the approval of the college or school involved.

(Effective Date: Students graduating after August 31, 1979.)

Visitors

Full-time University students may attend classes as visitors, provided they obtain the written permission of their advisers and of the instructors in classes they desire to visit. Members of the administrative staff, teaching staff, or other regular University employees may attend classes as visitors, provided they obtain written permission of the chairpersons of the departments and the instructors of the classes which they desire to visit.

No credit is given for work in such classes. Such persons may not obtain credit by advanced standing examinations in courses attended as visitors.

Auditors

Students may enroll in courses without working for grade or for credit by registering as auditors and by paying full fees. Change in status from audit to credit or from credit to audit may be made during the registration period. Attendance requirements for auditors shall be determined by the instructor of the course being audited. It is the prerogative of the instructor to strike the name of any auditor from grade report forms and to instruct the Office of Admissions and Records to withdraw the auditor from the class if attendance requirements are not met.

Summer Sessions

There are two summer sessions, each of six weeks duration. The first session begins approximately the middle of May and ends June 30. The second session begins July 1, and ends the second week of August. Requirements for admission and character of the work offered are the same for the summer sessions as for the regular academic year.

Credit may be obtained toward the bachelor's, master's, and doctorate. Offerings are varied from summer to summer, so that students may complete work for the master's degree by attending summer sessions only.

For complete information, see the *WVU Summer Sessions Schedule of Courses*.

Grade-Point Average

All academic units of the University require minimum standards of scholastic quality. Grade points are computed only on grades earned at WVU and at other institutions in the West Virginia state system of higher education. To be eligible for graduation, a student must have a grade-point average of 2.0 (C) or higher on all work for which the student receives grades (except W, WU, and P). In addition, specific degree programs may require minimum grades of C, or in some cases higher than C, in specific courses or portions of the baccalaureate program.

It is the student's responsibility to keep informed of the student's grade-point standing. This information may be obtained at any time from the dean of the college or school in which the student is registered.

Seventy-two hours of credit and grades earned for college-parallel courses completed at community colleges or branch colleges in the West Virginia system of higher education may be applied toward a baccalaureate degree at WVU. Transfer credit for college-parallel courses completed at other community colleges and junior colleges is normally limited to lower-division courses.

Graduation With Honors

The University recognizes distinguished academic achievement by awarding initial and second baccalaureate degrees *summa cum laude*, *magna cum laude*, or *cum laude* to qualified students. All candidates for a baccalaureate degree whose grade-point average is 3.8, or higher shall be graduated *summa cum laude*. Those whose average is lower than 3.8, but equal to or

higher than 3.6, shall be graduated *magna cum laude*. Those whose average is lower than 3.6, but equal to or higher than 3.4, shall be graduated *cum laude*.

1. Grade-point averages for graduation with honors shall be computed by starting with the student's penultimate semester or summer session and continuing in reverse chronological order until at least 80 semester hours of work taken at West Virginia University or other West Virginia Board of Regents institutions, excluding credits earned with a grade of P, have been counted. If in order to total the required number of hours it is necessary to include any part of a semester or summer session, the work of the whole semester or session shall be included. If it is to the student's advantage to do so, the cumulative grade-point average on all work completed at WVU or BOR institutions may be considered, provided that the total hours completed are 80 or more.

2. The student who does not complete 80 semester hours at WVU or a BOR institution by the end of the penultimate semester, may petition his or her dean for a review of his/her individual case. The dean will forward all requests to the Provost for the final decision.

3. Fitting recognition of graduation *summa cum laude*, *magna cum laude*, or *cum laude* shall be made on the candidate's diploma and in the Commencement Program.

Students completing a second baccalaureate degree at the University are eligible to receive the honors distinction of *summa cum laude*, *magna cum laude*, or *cum laude*. The following regulations govern these awards:

1. Grade-point averages for graduation with honors shall be computed on the last 80 semester hours, excluding credits earned with a grade of P or S, completed at West Virginia University or a West Virginia Board of Regents institution.

2. At least 30 of the 80 semester hours must have been completed in the second degree program through the penultimate semester or summer session. The remainder of the 80 semester hours will be counted from the student's first baccalaureate degree program, counting in reverse chronological order from the semester or summer session of graduation. If, in order to total the required number of hours it is necessary to include any part of a semester or summer session, the work of the whole semester or session shall be included.

3. Subject to the above conditions, second baccalaureate degree students may be awarded the following honors recognition: *summa cum laude*, provided a grade-point average of 3.8 or higher has been achieved in both the post-baccalaureate hours and the last 80 hours; *magna cum laude*, provided a grade-point average of 3.6 or better has been achieved in both the post-baccalaureate hours and the last 80 hours; or *cum laude*, provided a grade-point average of at least 3.4 has been achieved in both the post-baccalaureate hours and the last 80 hours.

4. Fitting recognition of graduation *summa cum laude*, *magna cum laude*, or *cum laude* shall be made on the candidate's diploma and in the Commencement Program.

Academic Progress Courses

As a rule, courses extend through one semester only, although some are of a year's duration. No credit is given for less than an entire course except by special order of the Committee on Academic Standards. Grades given at the end of the first semester in courses extending throughout the year are merely

indicative of the quality of work done by the student to that point and do not give credit for the part of the course so far completed. Such first-semester grades may be considered in determining the final grade, however.

Summer sessions courses carry the same credit value as courses offered in the regular semesters.

Evaluation of Student Progress

Measurement and evaluation of learning, consistent with the objectives of the course, provide opportunity for the student and the teacher to evaluate progress through a variety of methods. Evaluation by final examination alone is discouraged.

Students are responsible for all materials presented or assigned in scheduled instructional sections. Failure to complete all assigned work may result in a report of I or a grade of F at the discretion of the instructor.

Final examinations are held during the last week of each semester of the academic year and during the last three days of each summer session. A listing in the *Schedule of Courses* each semester sets the time for final examinations.

The only tests permitted during the week of classes preceding finals will be in evening classes, practical laboratory tests, make-up examinations, and regularly scheduled short quizzes.

Students in evening sections of multi-section courses may be required to take departmental examinations during the regular final examination period.

Absence From Examinations

The student is required to take all regular examinations. If a student attends a course throughout the semester and is absent from the final examination without permission, the instructor shall count the examination as zero and report the final grade as F. If, in the opinion of the instructor, the absence of the student was for satisfactory reason, the grade of I may be reported.

A student who has been absent because of illness, authorized University activities, or other reasons approved by the student's dean, has the opportunity to make up regularly scheduled examinations.

Grading System

- A — excellent (given only to students of superior ability and attainment)
- B — good (given only to students who are well above average, but not in the highest group)
- C — fair (average for undergraduate students)
- D — poor but passing (cannot be counted for graduate credit)
- F — failure
- I — incomplete
- W — withdrawal from a course before the date specified in the University Calendar. Students may not withdraw from a course after the specified date unless they withdraw from the University
- WU — withdrawal from the University doing unsatisfactory work
 - P — pass (see Pass-Fail Grading below)
 - X — auditor, no grade and no credit
- CR — credit but no grade

- PR — progress. Final grade at end of the second semester
(Medical Center)
S — satisfactory
U — unsatisfactory (equivalent to F)
*F — unforgivable F, not eligible for D/F repeat policy (see page 29)

Pass-Fail Grading

The basic purpose of pass-fail grading for undergraduates at WVU is to promote the undertaking of elective courses unrelated to the student's fields of degree concentration. A secondary purpose of pass-fail grading is to facilitate student grading in performance or competency based courses which may be an integral part of the student's program.

Student Option. Any full-time student who has completed 15 hours and maintains a 2.0 grade-point average may elect to take a maximum of 4 hours each semester or each summer session in which the grade earned will be either P (pass) or F (fail). The courses taken for pass-fail grading must be free electives and shall not exceed a total of 18 hours of credit. Unless otherwise indicated, excluded are courses in the student's major, courses in other subjects that are required by the major, and courses taken to satisfy either University, college, or school requirements. For example, courses elected to satisfy the English, University Core Curriculum, or Foreign Language requirements may not be taken for pass-fail grading.

The student electing the pass-fail grading option will be graded as a regular student and the appropriate letter grade will be submitted to the Office of Admissions and Records. The Office of Admissions and Records shall convert the earned letter grade to P-F on the basis of A, B, C, or D for a pass, and F for a fail.

The selection of a course for pass-fail grading must be made at registration and may not be changed after the close of the registration period.

College or School Option. A department or unit may designate any performance or competency based course which, with the approval of the college or school and the Faculty Senate, may be offered exclusively as P-F. Such courses offered only as P-F shall not be included in the maximum of 18 hours that may be freely elected under the student option.

(This revised policy became effective as of the beginning of the First Semester, 1977-78, for grading under the Student Option.)

Grade Points

Grade points are based on the following grade-point values for each semester of credit:

A	B	C	D	F	I	U
4	3	2	1	0	0	0

The grade-point average is computed on all work for which the student has registered with the following exceptions:

(a) Courses with W, WU, P, S, and X.

(b) The grade of I is given when an instructor believes that the course work is unavoidably incomplete or that a supplementary examination is justifiable. When a student receives the grade of I in a course he/she should not register for the course again. The student should make arrangements with the original instructor to make up the deficiency. When a student receives a grade of I and later removes the incomplete grade, the average grade-point standing shall be calculated on the basis of the new grade. The grade of I must

be removed within the following semester or the next semester in which the student is in residence, and the grade of I becomes a failure unless special permission is granted by the appropriate Committee on Academic Standards to postpone removal.

For teacher certification the student is responsible for every registration in a course for which a grade of A, B, C, D, F, WU, P, or I is received.

D/F Repeat Policy

If an undergraduate student earns a grade of D or F in any course at WVU taken no later than the semester or summer session registration when a cumulative total of 60 hours has been attempted, and if this course is repeated in residence at WVU, one time only, the original grade shall be disregarded for the purpose of determining the student's grade-point average, hours passed and hours attempted, and the grade earned when the course is repeated shall be used in determining the student's grade-point average, hours passed and hours attempted. The first grade recorded shall not be deleted from the student's permanent record and the second grade will be entered marked repeat, in the semester when taken. The repeat may be completed at any time prior to the receipt of a baccalaureate degree. (*Effective Date: December 1985.*)

The grade of F given in a course for disciplinary reasons or for cheating is not eligible to be deleted under the above D/F repeat rule. Such a grade will be indicated on the student's permanent record and transcript by an *F and will be calculated in the grade-point average.

Grade Reports

In the seventh week of classes of each semester, instructors in all undergraduate courses shall submit a report of students doing unsatisfactory work; that is, earning grades of D or F. These grades are used for counseling and are not recorded on the student's permanent record in the Office of Admissions and Records. These reports are sent to the Office of Admissions and Records and this information is transmitted to the student, adviser, and dean of the college or school.

Final grades are reported by instructors directly to the Office of Admissions and Records within 48 hours after the closing of the final examination. The rule also applies to the final grades of all students registered in other colleges and schools of WVU who are enrolled in law courses

The final standing of all seniors provisionally approved for graduation at the close of the second semester shall be reported by their instructors to the deans of their colleges and schools, and the final standing of all graduate students provisionally approved for graduation shall be reported to the Assistant Vice President for Curriculum and Instruction. Special report cards are supplied by the Office of Admissions and Records.

A report of each student's work is made at the close of the semester or summer session to the student.

Transcripts of Academic Record

Every student is entitled to one free official transcript of his or her record. Each additional copy costs \$3 in cash or money order. Two or three weeks may be required to process an application for a transcript at the close of a semester or summer session. At other times the service requires approximately 48 hours from receipt of the request.

Students who default in the payment of any university financial obligation forfeit their right to claim a transcript until such time that the obligation has been satisfied.

An application for a transcript of credit earned must furnish the date of last attendance at WVU and student identification number. A married woman should give both her maiden and married names.

All requests for transcripts must be sent in writing directly to the Office of Admissions and Records; no phone requests are accepted.

Final Grade Appeals

Students have the right to appeal final course grades which they believe reflect a capricious, arbitrary, or prejudiced academic evaluation, or reflect discrimination based on race, color, creed, sex, or national origin. The grade appealed shall remain in effect until the appeal procedure is completed, or the problem is resolved. The primary intent of this procedure is to provide a mechanism whereby a student might appeal a failing grade or a grade low enough to cause the student to be eliminated from some program or to require the repeat of a course. Grade appeals that do not meet this classification are not precluded. It is understood that an extension of time in the procedural steps may be granted students if in the professional judgment of the chairperson or the dean such an extension is warranted.

Appeal Procedure

Step 1. The student shall discuss the complaint with the instructor involved prior to the end of the succeeding regular semester, whether enrolled or not. If the two parties are unable to satisfactorily resolve the matter within two weeks, the student shall notify the chairperson of the instructor's department or division (or, if none, the dean). (The chairperson or dean will assume the role of an informal facilitator and assist the student and instructor in their resolution attempts.) If the problem is not resolved, the student may proceed directly to Step 2. If the instructor is not available, or if the nature of the complaint makes discussion with the instructor inappropriate, the student shall proceed directly to Step 2.

Step 2. The student must prepare and sign a document which states the facts constituting the basis for the appeal. Copies of this document shall be given to the instructor and to the instructor's chairperson (or, if none, to the dean). If, within ten working days of receipt of the student's signed document, the chairperson cannot resolve the problem to the satisfaction of the student and instructor involved, the complaint will automatically be forwarded to Step 3.

Step 3. Within one week of receipt of the complaint, the instructor's dean shall make a determination regarding the grade, making any recommendation for a grade change to the instructor involved. If the instructor involved does not act on the dean's recommendation, or if the student is in disagreement with the decision of the dean, the case will be referred to a representative body of the instructor's department or college or school for final resolution. The number and make-up of this body are to be determined by the appropriate dean. In cases of an appeal to this body, the faculty member involved shall receive written notification of the grade challenge which shall include a statement of the facts and evidence to be presented by the student in support of the charges made with sufficient clarity to reasonably disclose the claim for a grade change. The faculty member involved and the student making the

appeal shall receive written notification that a hearing will be held before the department or college or school committee together with the notice of the date, time, and place of the hearing. The final decision of this body shall be forwarded to the instructor involved. If the decision requires a change of grade, the instructor shall take action in accordance with the committee's decision. If the instructor does not act within five days, the dean will make the necessary grade adjustment. Implementation of this decision shall end the appeal procedure.

Absences

Students who are absent from class for any reason are responsible for work missed and should understand that absences may jeopardize their grades or continuance in the course.

Instructors are responsible for keeping an accurate record of students enrolled and for recording attendance. Instructors who use attendance records in the determination of grades will announce this fact to students in writing within the first five class meetings.

Withdrawals

Academic Leave of Absence

Beginning with the Fall term of 1987, WVU will offer undergraduate students in good standing the opportunity to request an academic leave of absence. The academic leave of absence is designed for the student who wishes to be away from his/her academic endeavors at WVU for one or more semesters, but intends to return at a later date. Students eligible for an academic leave of absence will have their academic records remain in an active status. While on an academic leave of absence, the student may use certain campus facilities such as the Reading Lab, Writing Lab, Student Counseling Service, and Career Services. Returning to WVU is made easier for the student who is on an academic leave of absence, including the waiver of application fees. While on an academic leave of absence, the student will receive communication from WVU. Academic advisers and the Office of Admissions and Records can provide details about the academic leave of absence.

Withdrawal From Classes

Deadlines: Until the Friday of the tenth week of class (or Friday of the fourth week in a six-week summer session, or Friday of the second week of a three-week summer session), students may withdraw from individual courses. Deadlines are published in the *University Schedule of Courses* each semester.

Procedures:

1. Before withdrawing from individual classes, students are responsible for consulting their advisers to determine:

(a) Whether their course loads would be reduced below the minimum requirements set by their colleges or schools (if so, permission of the Committee on Academic Standards of the respective college or school is required *before* the course adjustment form may be submitted); or

(b) Whether their course loads would be reduced below the minimum number of hours required to qualify for special status, e.g., financial aid, varsity athletic competition, or international full-time student status; or

(c) Whether the courses to be dropped are required to fulfill academic probationary conditions; and/or

(d) Whether the courses from which they desire to withdraw might be

(1) Corequisite with other courses they are taking; or

(2) Prerequisite to other courses required for the next term.

2. Students must obtain adviser signatures on the University course adjustment forms and then submit the forms to the Office of Admissions and Records.

3. Students who withdraw from courses following all the established University procedures before the published deadline will receive a W on the transcript for the appropriate courses. Grade-point averages are not affected in any way by this mark.

Withdrawal From the University

Deadlines: Students may withdraw from the University *any time before the last day on which regular classes are scheduled to meet*. Students who withdraw from the University before the Friday of the tenth week of classes (or the Friday of the fourth week in a six-week summer session, or the Friday of the second week of a three-week summer session) will receive grades of W in all their courses for that semester or session. Students who withdraw after these deadlines will receive grades of W in those courses in which satisfactory progress had been made; they will receive grades of WU for courses in which progress had been unsatisfactory.

Procedures:

1. Students who decide to leave WVU should withdraw from all classes and must do so in accordance with established University policy. Students are responsible for all *financial obligations* and for following established procedures, including the completion of forms and the delivery of the completed forms to appropriate officials. Students not fulfilling these financial obligations may have difficulty withdrawing from the University. The withdrawal becomes official only after the forms have been recorded by the Director of Admissions and Records.

2. Students who are unable to withdraw in person because of illness, accident, or other valid reasons, still must send to the Office of Student Life notification of their intention to withdraw. The notice should be verified in writing and the student ID and PRT cards enclosed.

3. Students who desire to withdraw from WVU must obtain a withdrawal form from the Student Affairs office (or dean's office of an off-campus instructional unit). Withdrawal procedure will be explained at that time. Identification (ID) and PRT cards must be presented.

4. With the help of their academic advisers, students are responsible for determining how withdrawal from the University may affect their future status with the University, including such aspects as suspension for failure to make progress toward a degree or violation of established academic probation and eligibility for scholarships, fellowships, or financial aid.

Re-Enrollment After Withdrawal

An undergraduate student who withdraws from WVU in two consecutive semesters (excluding summer sessions) may not register for further work without approval of the dean of the college or school in which the student wishes to register and subject to conditions set by that dean.

Committee on Academic Standards

The Committee on Academic Standards of each college or school shall have authority to proceed according to its best judgment in regard to students referred to it for consideration.

All orders of the committee shall become effective when approved by the dean of the college or school.

In exercising its authority, the committee shall not suspend a student during a semester except for willful neglect and in cases where the student's class grades are so low that further class attendance would be a waste of time. No suspension shall become effective until approved by the dean of the college or school.

Probation, Suspension, Readmission, Expulsion Policy

Uniform Probation

Any undergraduate student whose cumulative average is 2.0 or higher is in good academic standing in the University. Every baccalaureate degree requires a minimum grade-point average of 2.0 for graduation.

Students whose cumulative grade-point average is below 2.0 will be notified on semester grade reports that their academic performance is unsatisfactory and that they are on probation.

Nothing in this statement prevents a unit from requiring a grade-point average above 2.0 or adding other academic requirements for purposes of determining probation or meeting degree requirements.

Uniform Academic Suspension Regulations

The student whose cumulative grade-point deficiency exceeds the "allowable grade-point deficiency" (see Table) is subject to suspension *at any time*. Normally, students are suspended at the end of a semester or summer school session. Deans have the authority to waive suspension in favor of probation if in their judgment the circumstances of individual cases so warrant. The suspension rule will be set aside only under extraordinary conditions.

Academic suspension identifies the status of a student who has failed to meet the University minimum standards and who has been notified formally by the dean of the college or school of academic suspension. Suspension from the University means that a student will not be permitted to register for any classes, including those in summer sessions, offered by the University for academic credit until the student has been officially reinstated. The normal period of suspension is a minimum of one academic semester but will not exceed one calendar year from the date of suspension.

A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at West Virginia University upon readmission to the University. After one semester of satisfactory performance (C average or better on a minimum of 12 credit hours earned during a regular semester or during the summer sessions) the appropriate transfer credit will be entered into the student's record upon certification by the adviser and dean that the above conditions have been met. A student who has preregistered and is subsequently suspended shall have his/her registration automatically cancelled.

Maximum Allowable Grade-Point Deficiency*

<i>Total Hours Attempted**</i>	<i>Maximum Grade-Point Deficiency**</i>	<i>Total Hours Attempted**</i>	<i>Maximum Grade-Point Deficiency**</i>
0-19	20	55-59	12
20-24	19	60-64	11
25-29	18	65-69	10
30-34	17	70-74	9
35-39	16	75-79	8
40-44	15	80-84	7
45-49	14	85 or more	6
50-54	13		

*The grade-point deficiency is the difference between the number of grade points needed for a 2.0 average and the number of grade points that a student has actually earned in all courses attempted.

**Includes all hours attempted in institutions in the West Virginia System of Higher Education, excluding grades of P exclusive of the D-F Repeat Policy.

Readmission After Suspension

During the semester immediately following the effective date of suspension, suspended students may petition in writing for readmission. The college or school petitioned shall establish the terms of readmission for successful student petitions.

After one calendar year from the effective date of suspension, any student who has been suspended one time shall, upon written application, be readmitted to the University and to the college or school in which the student was previously enrolled, unless the student petitions for admission to another college or school. The college which readmits the student removes the student's suspension restriction in Admissions and Records and accepts the student.

A suspended student who is readmitted under the provisions above will be placed on academic probation and will be subject to the maximum grade-point deficiency regulations as before, unless the terms of probation agreed to by the student and that college stipulate otherwise. Each college or school shall have the right to establish requirements or performance expectations.

After the second or any subsequent suspension, a student may be readmitted to the University provided that a college or school agrees to readmit the student.

Uniform Academic Expulsion Regulations

Academic expulsion from the University means that a student will not be permitted to register for any classes, including those in summer sessions, offered by the University. Academic expulsion can result from repeated failure to make academic progress and/or to meet probationary terms set forth in writing by the student's college or school.

After five calendar years from the effective date of academic expulsion, any student who has been expelled shall, upon written application, be considered for readmission to the University, with the terms of readmission to be established by the college or school entered by the readmitted student. Failure to meet these terms will result in permanent academic expulsion.

Academic Dishonesty

The academic development of students and the overall integrity of the institution are primary responsibilities of WVU. Academic dishonesty is condemned at all levels of life, indicating an inability to meet and face issues and creating an atmosphere of mistrust, disrespect, and insecurity. In addition, it is essential in an academic community that grades accurately reflect the attainment of the individual student. Faculty, students, and administrators have shared responsibilities in maintaining the academic integrity essential for the University to accomplish its mission.

Responsibilities

Students should act to prevent opportunities for academic dishonesty to occur, and in such a manner to discourage any type of academic dishonesty.

Faculty members are expected to remove opportunities for cheating, whether related to test construction, test confidentiality, test administration, or test grading. This same professional care should be exercised with regard to oral and written reports, laboratory assignments, and grade books.

Deans and department chairpersons are expected to acquaint all faculty with expected professional behavior regarding academic integrity, and to continue to remind them of their responsibility. Deans and department chairpersons shall assist faculty members and students in handling first-offense cheating allegations at the lowest possible level in the University, and with discretion to prevent damage to the reputation of any person who has not been found guilty in the prescribed manner.

Each member of the teaching faculty and all other WVU employees, including but not limited to assistants, proctors, office personnel, custodians, and public safety officers, shall promptly report each known case of academic dishonesty to the appropriate supervisor, department chairperson, or dean of the college or school concerned.

Academic Dishonesty Defined

Academic dishonesty is defined to include any of the following:

1. Plagiarism: Submitting for credit, without appropriate acknowledgment, a report, notebook, speech, outline, theme, thesis, dissertation, or other written, visual, or oral material that has been knowingly obtained or copied in whole or in part from another individual's academic composition, compilation, or other product, or commercially-prepared paper.
2. Cheating and dishonest practices in connection with examinations, papers, and projects, including but not limited to:
 - a. Obtaining help from another student during examinations.
 - b. Knowingly giving help to another student during examinations, taking an examination or doing academic work for another student, or providing one's own work for another student to copy and submit as his/her own.
 - c. Using notes, books, or any other source of information during examinations, unless authorized by the examiner.
 - d. Obtaining without authorization an examination or any part thereof.
3. Forgery, misrepresentation or fraud:
 - a. Knowingly furnishing false statements in any University academic disciplinary proceeding.

- b. Forging or altering, or causing to be altered, the record of any grade in a gradebook, office or other educational record.
- c. Using University documents or instruments of identification with intent to defraud.
- d. Presenting false data or intentionally misrepresenting one's records for admission, registration, or withdrawal from the University or from a University course.

Procedure for Handling Academic Dishonesty Cases

1. Procedures for infractions of institutional academic standards, rules, and regulations are published in the *University Catalog* and other written documents and are binding on all students.

2. Procedure for academic dishonesty including: plagiarism; cheating and dishonest practices in connection with examinations, papers and projects; and forgery, misrepresentation and fraud. Charges may be filed by any member of the academic community.

- a. *Step 1.* At the discretion of the student, faculty member, and chairperson of the department, some cases where there is an admission, in writing, of guilt by the student may be satisfactorily resolved at the departmental level. The maximum penalty at Step 1 is an F in the course. Whenever a penalty is administered, the facts of the case shall be reported in writing to the dean of the college or school, and a copy forwarded to the Office of Judicial Programs in Moore Hall for the permanent records. In cases wherein cheating occurs in a college or school other than that in which the student is a degree candidate, the results of the case shall be reported to the dean of the college or school in which the student involved is enrolled.

- b. *Step 2.* When the student denies guilt, or the faculty member or department chairperson feels the penalties available at Step 1 are insufficient for a specific act, the dean of the college or school in which the course is offered shall be notified in writing of the specifics of the case. The dean shall then implement the following steps:

- (1.) Formal notification to the student of the charges and the nature of the evidence, which if proved would justify action.
- (2.) Opportunity for the student and witnesses to respond in writing, rebutting the charges.
- (3.) Opportunity for the student to request that the case be forwarded by the dean to the University Conduct/Appeals Committee (Step 3).
- (4.) If the student admits guilt in a signed statement to the dean, or is found guilty, the dean shall prescribe the penalty deemed appropriate. The dean shall promptly report thereon in writing to the Office of Judicial Programs. A copy of such report will also be forwarded to the dean of the college or school in which the student is enrolled. The purpose of this copy of the report is to provide information in the event that further discipline or penalty may be deemed warranted by the dean of the college or school in which the student is a degree candidate. These records will be maintained by the dean(s) until the student graduates, at which time the records will be destroyed.

- c. *Step 3.* The University Conduct/Appeals Committee shall handle cases referred by a dean or requested by a student. The case must be

heard using the University Conduct/Appeals Committee guidelines. The University Conduct/Appeals Committee shall present to the accused student and to the person making the accusation written notification of the charges, which shall include at least: (a) a statement that a hearing will be held before the University Conduct/Appeals Committee together with the notice of the date, time and place of the hearing; and (b) a clear statement of the facts and evidence to be presented in support of the charges made. If the University Conduct/Appeals Committee finds the student guilty, it will determine the penalty it deems appropriate under the circumstances and inform the student of its actions. The action taken by the University Conduct/Appeals Committee shall be final.

Criminal Act in Connection With Cheating

If a student admits in writing that he/she has been guilty of academic dishonesty or is found guilty of academic dishonesty by the University Committee, in a case involving what is believed to be a criminal offense—such as theft of an examination or test materials, alteration of records, forgery, breaking or entering buildings, offices, desks, safes, or filing cabinets, damage to property, and other similar misconduct—the academic penalties and discipline as herein prescribed shall be applied. In addition, the facts of the case will be presented to the appropriate prosecuting attorney for further investigation and for such criminal or other action as may be warranted.

Dismissal From an Undergraduate Program

A student may be dismissed from an undergraduate program based on program and/or professional performance standards other than cumulative grade-point average. The reasons for dismissal must be based on *Catalog* or other written documents describing academic performance standards and expectations.

In cases of dismissal from an undergraduate program, the following procedural steps shall be followed:

Step 1. The student shall be counseled by a departmental representative or committee as soon as possible after discovery of a problem.

Step 2. The student shall be counseled a second time after an opportunity to improve if the student's performance has not changed sufficiently.

Step 3. A department or program committee shall formally review the student's status to determine:

- a. Whether the student shall be retained or recommended for dismissal.
- b. Whether counseling or remediation steps shall be required as a condition of retention.

Step 4. A dismissal decision by the dean of the student's school or college may be appealed to the University Conduct/Appeals Committee which will hold a hearing. The student may be advised by a person of his/her choice in the hearing.

Step 5. A decision for dismissal must be reviewed by the appropriate academic Vice President who may confirm or remand the recommendation with specific conditions for the review process.

Step 6. A recommendation for dismissal by the University Conduct/Appeals Committee confirmed by the appropriate academic Vice President may be appealed to the President whose decision is final.

WVU Medical Center/Basic Sciences Graduate Programs

Graduate degrees are offered by the School of Dentistry, School of Nursing, School of Pharmacy and the Departments of Anatomy, Biochemistry, Microbiology, Pharmacology and Toxicology, Physiology, and Pathology (Medical Technology) in the School of Medicine. Brief guidelines and descriptions of these programs are described in this *Catalog*. For more detailed presentation of graduate programs, as well as the policies and rules governing graduate education, the *Graduate Catalog* should be consulted.

General Policies and Procedures

Medical Center Graduate Council

The Medical Center Graduate Council advises the Vice President for Health Sciences. In this role the Council monitors and administers the graduate studies policies of the health sciences schools located at the Medical Center. The membership of the Council includes: Fred R. Butcher (Chairperson), Charles R. Craig and Irvin S. Snyder, School of Medicine; James Overberger, School of Dentistry; Mary Jane Smith, School of Nursing; Donald Waters, School of Pharmacy, and Darlene Taylor, Secretary of the Council.

Application and Admission

Application

Prospective graduate students are urged to initiate application for admission as early as possible. The first step of a student interested in a degree program should be to ask for information from the department, division, school, or college offering the program desired; the reply to such an inquiry will include instructions for applying to the particular program.

In all cases, application must be made for admission to graduate study on standard forms provided by the WVU Office of Admissions and Records. The completed form is to be returned to the Office of Admissions and Records, and must be accompanied by payment of a nonrefundable special service fee of \$20.00. Applicants must at the same time request the registrar or records office of the college of their baccalaureate degree to send an official transcript directly to the Office of Admissions and Records. If other institutions have been attended in the course of undergraduate or graduate study, transcripts should be requested from them as well. No one is admitted to graduate study who does not hold a baccalaureate degree.

If the applicant meets the minimum admission requirements of WVU, a copy of the application is forwarded to the faculty of the program of interest. Any graduate degree program is permitted to set admission requirements which go beyond the minimum admission standards of the University. No one can pursue an advanced degree at WVU unless admitted to the appropriate degree program.

Reapplication

When a student graduates or completes the program for which he/she applied, the student must reapply and be readmitted before taking further course work at WVU. This policy assures that the University is informed of

the student's objectives and that he/she is assigned an appropriate adviser. Students will be assessed the application fee for each new application.

When eight years have passed since initial course work, a student must reapply. The application fee will be assessed.

Classification of Graduate Students

1. Regular. A regular graduate student is a degree-seeking student who meets all the criteria for regular admission to a program of his/her choice. The student must possess a baccalaureate degree from a college or university, must have at least a grade-point average of 2.5 (on a 4.0 scale), have met all the criteria established by the degree program, and be under no requirements to make up deficiencies.

2. Provisional. A student may be admitted as provisional by any unit when the student possesses a baccalaureate degree but clearly does not meet the criteria for regular admission. The student may have incomplete credentials, deficiencies to make up, or may have an undergraduate scholastic record which shows promise, but less than the 2.5 grade-point average required for regular admission.

3. Non-Degree. A non-degree student is a student not admitted to a program. Admission as a non-degree student does not guarantee admission to any course or program. To be admitted as a non-degree student, a student must only present evidence of a baccalaureate degree, but the student must obtain a 2.25 grade-point average on the first 12 credit hours of course work and maintain this average as long as enrolled. To be eligible to enter a degree program, the student must maintain a minimum of a 2.75 grade-point average on all course work taken since admission as a graduate student.

Reclassification

1. Provisional to Regular:

a. The provisions of a student's provisional status must be specified in the letter of admission.

b. To be reclassified as a regular student, a student must meet the provisions stated in the letter of admission and achieve a minimum grade-point average of 2.75 on all course work taken during the provisional period. Individual degree programs may set higher grade-point average requirements.

c. No later than the completion of the 18th credit hour, a unit must review the student's record and make a final decision on the student's admission. A student who has met the provisions of admission and achieved the required grade-point average will be reclassified as a regular student. A student who fails to meet the provisions of admission or who fails to achieve the required grade-point average will be suspended, but may be reinstated in order to transfer to another program or to non-degree status. The academic unit must notify the student and the Office of Admissions and Records of its decision.

d. Upon notification by the appropriate academic unit, the Office of Admissions and Records will prohibit the registration of all provisional graduate students who have reached the maximum of 18 credit hours. Registration will not be permitted until the student is reclassified as a regular student, an exception is granted by an academic dean, or the student is transferred.

e. A student may be admitted as a provisional graduate student more than one time, but not to the same graduate program.

f. All credit hours taken since admission as a provisional graduate student or to be applied to a degree count in the 18 credit-hour limit, i.e., undergraduate or graduate credit, P/F, S/U, graded courses, credit by senior petition, and transfer credit.

2. Regular or Provisional to Non-Degree:

a. Regular and provisional students may become non-degree students by choice. This includes students who fail to meet admission or academic standards or who withdraw voluntarily.

b. To change a student to non-degree status, the adviser must process a Graduate Studies Transfer/Status form through the Medical Center Graduate Programs Office.

3. Non-Degree to Regular or Provisional:

a. Non-degree students who later wish to become degree candidates must transfer and present all the credentials required by the degree program. This requires the processing of a Graduate Studies Transfer/Status form by the student's adviser through the Medical Center Graduate Programs Office.

b. For admission to a degree program, a non-degree student must have achieved a minimum grade-point average of 2.75 on all course work taken since admission as a graduate student.

Graduate Record and Other Examinations

Many programs at WVU require Graduate Record Examination (GRE) scores from all applicants, but in no program are they the sole criterion for admission. Some programs require both the general aptitude and the appropriate advanced test before considering an applicant for admission. All departments in the School of Medicine require that a student take the GRE test. The School of Pharmacy requires a student have the GRE.

Admission of International Students

International students wishing to enroll for graduate work at WVU must comply with the stated academic requirements for admission and with certain additional academic and nonacademic requirements as follows:

Early Inquiry and Application

International applicants should forward a letter of inquiry one year before the intended time of beginning study in the United States.

English Proficiency

All international applicants, the language of whose family and schooling was other than English, must present a composite score of at least 550 on the "Test of English As a Foreign Language" (TOEFL).

Credentials

See the *WVU Graduate Catalog*.

Intrauniversity Transfers

To transfer from one school/department to another, a student may initiate a transfer request by contacting the Medical Center Graduate Programs Office or his/her adviser. The adviser must contact the Medical Center Graduate Programs Office which will complete transfer.

Credit Limitations

General

Credit toward a graduate degree may be obtained only for courses listed in the *Graduate Catalog*, and numbered 200-499, in which the grade earned is A, B, C, or S. No course in which the grade earned is D, P, F, or U can be counted toward a graduate degree.

Employed Graduate Students

Graduate students will be required by their advisers to limit their credit loads in proportion to the outside service rendered and the time available for graduate study. In general, persons in full-time service to the University, or other employer, will be advised to enroll for no more than 6 hours of work in any one semester and those in half-time service for no more than 12 hours. Maximum credit loads may be less for employed graduate students in some academic colleges, schools, and departments.

Non-Degree Graduate Students

A non-degree graduate student may accumulate unlimited graduate credit hours, but if the student is later admitted to a degree program, the faculty of that program will decide whether or not any credit earned as a non-degree student may be applied to the degree. Under no circumstances may a non-degree student apply more than 12 hours of credit toward a degree.

Transfer Credit

To apply graduate-level credits from other institutions toward a master's degree at WVU, students must get permission from the individual schools or colleges. The standardized permission form, signed by a unit chairperson or designate, must be submitted to the Office of Admissions and Records with an official transcript from the other institution. Only credit earned at institutions accredited at the graduate level may be transferred.

Graduate courses taken elsewhere will not be approved for transfer credit unless written approval was secured *before* enrolling in them. At the time the written approval is given, a copy of approval must be sent to the Medical Center Graduate Programs Office.

A maximum of 12 semester hours from other institutions will be accepted for credit at WVU in master's degree programs requiring 30 to 41 semester hours. Eighteen (18) semester hours will be accepted for master's degree programs requiring 42 or more semester hours. Individual graduate programs may accept fewer credit hours.

Completed permission forms are to be submitted to the Medical Center Graduate Programs Office for approval.

Time Limits

Master's Degree

All requirements for a master's degree must be completed within 8 years preceding the student's graduation.

Doctorate

The doctorate is a research or performance degree and does not depend on the accumulation of credit hours. The three requirements of the degree are

admission to candidacy, residency, and completion and defense of the dissertation. The degree signifies that the holder has the competence to function independently at the highest level of endeavor in the chosen profession. Hence, the number of years involved in attaining or retaining competency cannot be readily specified. Rather, it is important that the doctoral student's competency be assessed and verified in a reasonable period of time prior to conferral of the degree.

The qualifying examination is the method of assessing whether the student has attained sufficient knowledge of the discipline and supporting fields in order to undertake independent research or practice. It is expected that the examination will occur after all course work has been completed and language or other requirements satisfied, and it consists of a series of examinations covering all areas specified in the plan of study. After the component parts of the qualifying examination have been successfully passed, the student is admitted to candidacy for the degree. It is sometimes called the candidacy examination because no one can be called a doctoral candidate until this first requirement for the degree has been met.

Because the qualifying examination attests to the academic competence of the student who is about to become an independent researcher or practitioner, the examination should not precede the degree by too long a period of time. Consequently, doctoral candidates are allowed no more than 5 years in which to complete remaining degree requirements. In the event a student fails to complete the doctorate within 5 years after admission to candidacy, an extension of time can be obtained only by repeating the qualifying examination, and meeting any other requirements specified by the student's committee.

Contractual Nature of Graduate Study

The student's rights, privileges, obligations, and responsibilities are contained in the *Graduate Catalog*, the plan of study, and, if research is one of the degree program requirements, the prospectus. Although not contracts in the formal legal sense, they are agreements between the University and a student for the accomplishment of planned educational goals.

Plan of Study

Submit within the first academic year (18 hours for a master's and 30 hours for doctorate/after thesis committee for Nursing) to the Medical Center Graduate Programs Office.

The plan of study is subject to approval and is made a part of the student's record. It then becomes a formal agreement between student and program faculty as to the conditions which must be met for completion of the degree requirements. Any subsequent changes in plan of study (or prospectus) can be made only through mutual agreement, with a memorandum of changes sent to the Medical Center Graduate Programs Office.

Records in Medical Center Graduate Programs Office

The Medical Center Graduate Programs Office maintains all records for monitoring student progress and for certifying students for graduation. Among these records are: (1) plans of study (subject to chairperson of Medical Center Graduate Council's approval); (2) graduate committees (subject to school dean's or designate's approval and approval of the Medical Center Graduate Programs Office); (3) grades; (4) grade modifications, etc.

Grading

Pass/Fail grading is not applicable to the course work for a graduate degree. A graduate student may register for any course (1-499) on a Pass/Fail basis only if the course involved is not included in the student's plan of study and does not count toward a graduate degree. The selection of a course for Pass/Fail grading must be made at registration and may not be changed after the close of the registration period. A student who, having taken a course on a Pass/Fail basis, later decides to include the course as part of a degree program must re-register for the course on a graded (A, B, C, D, or F) basis.

Incompletes

The grade of I is given when the instructor believes the course work is unavoidably incomplete or that a supplementary examination is justifiable. The grade of I must be removed within one academic year or made a permanent incomplete. Grade modification forms are to be signed by the instructor of the course, and then brought to the Medical Center Graduate Programs Office for processing.

Grade changes other than I to a letter grade must be accompanied by an explanatory memo.

Theses and Dissertations

Procedural Rules

See the *West Virginia University Graduate Catalog*.

Dismissal From a Graduate Or a Professional Program

Dismissal from a graduate or professional program based on program and/or professional performance standards other than cumulative grade-point average:

1. Reasons must be based on catalog and other written documents describing academic and professional performance standards and expectations.

2. Procedural

Step 1. Counseling by departmental committee or representative as soon as possible after discovery of problem.

Step 2. Second counseling by departmental committee or representative after opportunity to improve if performance is not changed sufficiently.

Step 3. Formal review of student status by department or program committee to determine:

- a. Student retained or recommended for dismissal.

- b. Counseling or remediation steps required as a condition of retention.

- c. Appeals available if dismissal recommended.

Step 4. A dismissal decision by the dean of the student's school or college may be appealed to the University Conduct/Appeals Committee which will hold a hearing using the following procedures:

- a. The student may be advised by a person of his/her choice to assure due process protection not to affect the outcome of the proceedings.

The adviser may consult with the student but shall not speak on behalf of the student or participate directly unless granted specific permission by the University Conduct/Appeals Committee.

- b. The formal rules of evidence do not apply.

- c. The administrative procedure is not adversarial in nature.

- d. Witnesses may be presented and examined under oath.
- e. An accurate record of the procedure is to be kept. The student may request a transcript of the proceedings at the student's expense.
- f. An academic appeals committee has the right to counsel in those proceedings in which the student has retained counsel. Such counsel may not speak on behalf of the institution or otherwise participate directly in the proceedings.

Step 5. A decision for dismissal must be reviewed by the appropriate academic Vice President who may confirm or remand the recommendation with specific instructions.

Step 6. Recommendation for dismissal confirmed by the appropriate academic Vice President may be appealed to the President. The decision of the President is final.

Students' Committees

Number of Committee Members

Doctoral dissertation committees will consist of no fewer than five members, the majority of which will be regular graduate faculty including the chairperson. No more than one person may be a non-member.

Master's committees of programs requiring a thesis will consist of no fewer than three members, the majority of which will be regular graduate faculty including the chairperson. No more than one person may be a non-member.

Master's committees of programs not requiring a thesis will consist of no fewer than three members, one of which must be a regular graduate faculty member. No more than one person may be a non-member, and the non-member cannot chair or advise.

Committee approval must be obtained prior to the second semester for a master's degree and prior to the fourth semester for the doctorate. Committee approval for the nursing program is after the third semester.

Committee Approval

All graduate committees are subject to the approval of the school dean or designate and the Medical Center Graduate Programs Office.

Fees and Expenses

Fee Regulations

All West Virginia University fees are subject to change without notice.

All fees are due and payable to the Controller on the days of registration. Students must pay fees before registration is accepted. Completion of arrangements with the Controller's Office for payment from officially accepted scholarships, loan funds, grants, or contracts shall be considered sufficient for acceptance of registration. Fees paid after regular registration must be paid to the University Cashier in Mountainlair.

All students are expected to register on days set apart for registration at the beginning of each semester or summer session of the University.

No student will be permitted to register at the University after the eighth day of a semester or the fourth calendar day of the summer sessions or a single summer session. Days are counted from the first day of registration.

Any student failing to complete registration on regular registration days is subject to the Late Registration Fee of \$20.00.

Students registering pay the fees shown in the fees charts, plus special fees and deposits as required.

No degree will be conferred upon any candidate and no transcripts will be issued to any student before payment is made of all tuition, fees, and other indebtedness to any unit of the University.

It is the policy of West Virginia University to place on restriction students who have outstanding debts to a unit or units of the University. The restriction may include but is not limited to the withholding of a student's registration, a student's diploma, or a student's transcript.

Financial Aid

Students interested in financial assistance must file a Financial Aid Form (FAF) with College Scholarship Service, Box 2700, Princeton, NJ 08540. Forms are available at high schools or from the College Scholarship Service or the WVU Financial Aid Office. Submit only forms dated for the current academic year.

Your Guide to Financial Aid—West Virginia University is available at the WVU Financial Aid Offices, Mountainlair, Downtown Campus, and 104 Basic Sciences Building, Medical Center. The guide describes available financial aid, application procedures, and estimated educational expenses for attending WVU.

Classification of Students (Full-Time and Part-Time)

A *full-time graduate student* is one who is registered for 9 or more semester hours of work each semester of the regular academic year, or 6 or more semester hours of work altogether during the summer.

A *full-time undergraduate student* is one who is registered for 12 or more semester hours of work each semester of the regular academic year, or 6 or more semester hours of work during a 6-week summer session.

For fee assessment purposes, a *part-time graduate student* is one who is registered for fewer than 9 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

Semester Fees in Colleges and Schools

(Subject to Change Without Notice.)

FULL-TIME¹

Undergraduate^{a/f}

Fee	Tuition	Registration	Higher Education Resources	Institutional Activity	Mountainlair Construction	Faculty Improvement	TOTAL
Resident	\$165.00	\$ 50.00	\$ 215.00	\$173.00 ^c	\$40.00	\$15.00 ^d	\$ 658.00
Nonresident	535.00	250.00	600.00	173.00 ^c	40.00	50.00 ^d	1,648.00

Graduate^{b/f}

Resident	\$195.00	\$ 50.00	\$ 215.00 ^c	\$173.00 ^c	\$40.00	\$15.00 ^d	\$ 688.00
Nonresident	635.00	250.00	600.00 ^c	173.00 ^c	40.00	50.00 ^d	1,748.00

Dentistry^f

Resident	\$335.00	\$ 50.00	\$ 510.00 ^d	\$173.00 ^c	\$40.00	\$15.00 ^d	\$1,123.00
Nonresident	835.00	250.00	1,125.00 ^d	173.00 ^c	40.00	50.00 ^d	2,473.00

Medicine^{f/h}

Resident	\$300.00	\$ 50.00	\$ 475.00 ^d	\$173.00 ^c	\$40.00	\$15.00 ^d	\$1,703.00
Nonresident	800.00	250.00	1,090.00 ^d	173.00 ^c	40.00	50.00 ^d	3,253.00

Law^{b/f/i}

Resident	\$195.00	\$ 50.00	\$ 215.00 ^c	\$173.00 ^c	\$40.00	\$15.00 ^d	\$ 838.00
Nonresident	635.00	250.00	600.00 ^c	173.00 ^c	40.00	50.00 ^d	1,898.00

¹Undergraduate students enrolled for 12 or more credit hours pay maximum charges as indicated. Students enrolled for less than 12 credit hours pay a prorated charge calculated in direct proportion to the number of credit hours taken.

^bGraduate students enrolled for 9 or more credit hours pay maximum charges as indicated. Students enrolled for less than 9 credit hours pay a prorated charge calculated in direct proportion to the number of credit hours taken.

"Graduate," for fee purposes, includes all graduate studies programs.

^cPaid by Law and Graduate students only.

^dDental and Medical students pay appropriate laboratory and microscope fees.

^eIncludes Athletics Fee, \$40.00; Student Affairs Fee, \$20.00; Daily Athenaeum Fee, \$2.50; Health, Counseling, and Program Services Fee, \$63.00; Transportation Fee, \$45.00; Radio Station Fee, \$2.50.

^fAll part-time students enrolled for 7 or more credit hours must pay the Institutional Activity Fee and the Mountainlair Construction Fee.

^gFaculty Improvement Fee will be charged to all students and will be prorated for part-time students.

^hIncludes \$650.00 Resident Medical Education Fee; \$850.00 Nonresident Medical Education Fee. (Prorated for part-time students.)

ⁱIncludes \$150.00 Law School Fee.

PART-TIME² & SUMMER

Tuition per semester hour	Resident	Nonresident
Undergraduate Students.....	\$ 37.00	\$120.00
Graduate/Law Students	53.00	172.00
Dentistry Students	101.00	252.00
Medicine Students	93.00	244.00
Faculty Improvement Fee	Prorated ^d	Prorated ^e
Medical Education Fee	Prorated ^h	Prorated ^h

The minimum rate for noncredit courses is that charged for 1 semester hour of credit.

¹A full-time graduate student is one who is registered for 9 or more semester hours of work each semester of the regular academic year, or 6 or more semester hours of work altogether during the summer.

A full-time undergraduate student is one who is registered for 12 or more semester hours work each semester of the regular academic year, or 6 or more semester hours of work during a 6-week summer session.

²For fee assessment purposes, a part-time graduate student is one who is registered for fewer than 9 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

A part-time undergraduate student is one who is registered for fewer than 12 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

Estimated Expenses For Medical Center Programs (Subject to Change)

Tuition and registration are the same for both semesters. Some expenses, such as instruments and books, will be different for the Second Semester.

School or Division	Tuition and Registration Fees (Totals from page 46)		Instruments	Lab Coats, Uniforms etc.	Books	Total	
	Resident	Nonresident				Resident	Nonresident
Dental Hygiene Freshman Sophomore Junior Senior	\$ 658.00	\$1,648.00	\$ 130.00	\$ 17.00	\$200.00	\$1,005.00	\$1,995.00
	658.00	1,648.00	900.00	200.00	200.00	1,958.00	2,948.00
	658.00	1,648.00	275.00	120.00	230.00	1,283.00	2,273.00
	658.00	1,648.00	50.00	100.00	75.00	883.00	1,873.00
Dentistry First Year Second Year Third Year Fourth Year	1,123.00	2,473.00	2,640.00	88.00	600.00	4,451.00	5,801.00
	1,123.00	2,473.00	501.00	110.00	167.00	1,901.00	3,251.00
	1,123.00	2,473.00	_____	_____	70.00	1,193.00	2,543.00
	1,123.00	2,473.00	_____	_____	_____	1,123.00	2,473.00
Medical Technology Junior Summer Senior	658.00	1,648.00	95.00	85.00	400.00	1,238.00	2,228.00
	156.00	405.00	_____	250.00	250.00	656.00	905.00
	658.00	1,648.00	_____	195.00	_____	853.00	1,843.00
	_____	_____	_____	_____	_____	_____	_____
Medicine First Year Second Year Third Year Fourth Year	1,703.00	3,253.00	_____	50.00	305.00	2,058.00	3,608.00
	1,703.00	3,253.00	525.00	50.00	260.00	2,538.00	4,088.00
	1,703.00	3,253.00	_____	30.00	225.00	1,958.00	3,508.00
	1,703.00	3,253.00	_____	30.00	150.00	1,883.00	3,433.00
Nursing Sophomore Summer Junior Senior	658.00	1,648.00	40.00	130.00	400.00	1,228.00	2,218.00
	249.00	749.00	_____	_____	60.00	309.00	809.00
	658.00	1,648.00	_____	_____	200.00	758.00	1,748.00
	658.00	1,648.00	_____	_____	200.00	858.00	1,848.00
Pharmacy Third Year Fourth Year Summer Fifth Year	783.00	1,898.00	_____	30.00	370.00	\$1,183.00	2,298.00
	783.00	1,898.00	_____	_____	180.00	963.00	2,078.00
	783.00	1,898.00	_____	_____	_____	311.00	875.00
	783.00	1,898.00	_____	30.00	35.00	848.00	1,963.00
Physical Therapy Junior Senior Summer	658.00	1,648.00	90.00	90.00	335.00	1,173.00	2,163.00
	658.00	1,648.00	_____	70.00	370.00	1,098.00	2,088.00
	249.00	747.00	_____	_____	_____	249.00	747.00
	_____	_____	_____	_____	_____	_____	_____

A *part-time undergraduate student* is one who is registered for fewer than 12 semester hours per semester during the regular academic year, or for fewer than 6 semester hours during a 6-week summer session.

It should be recognized that unique curriculum requirements in several of the Medical Center programs may require student involvement in summer clinical clerkships prior to official enrollment for the following semester's work.

Fees for Off-Campus Courses

Fees for credit hours for off-campus students are the same as those charged students enrolled in on-campus courses. Off-campus students do not pay the Daily Athenaeum Fee, the Radio Station Fee, or the Mountainlair Construction Fee. However, all students must pay a \$40.00 course fee for each off-campus course taken.

Laboratory Fees

Consult specific departmental sections of this *Catalog* concerning nonrefundable deposits and microscope rental fee.

Special Fees

Application for Undergraduate Admission (Freshman, Transfer, and Foreign Students)	\$10.00
Application for Admission (Medicine and Dentistry)	30.00
Application for Admission (College of Law and Graduate Studies)	20.00
Certificate of Advanced Study in Education	2.00
Diploma Replacement	20.00
Examination for Advanced Standing	35.00
Examination for Entrance Credit, per unit	1.00
Non-Enrolled Graduate Student Evaluation Fee	50.00
(For graduate students not otherwise enrolled at time of final examination.)	
General Educational Development Tests (high school level)	15.00
(If the applicant applies for admission to and registers in WVU within twelve months of the date of qualifying for the test, a \$10.00 credit shall be established for the applicant.)	
Graduation	20.00
(Payable by all students at the beginning of the semester or session in which they expect to receive their degrees.)	
Late Registration (nonrefundable)	20.00
(Not charged to students who complete registration during the regular registration days as set forth in the University Calendar.)	
Program Reactivation Fee (Graduate Students)	20.00
Reinstatement of Student Dropped from the Rolls	10.00
Student Identification Card Replacement	10.00
Student's Record Fee	3.00
(One transcript of a student's record is furnished by the Office of Admissions and Records without charge. This fee is charged for furnishing an additional transcript.)	

Summer Tuition and Fees

Tuition, per semester hour	Resident	Nonresident
Undergraduate Students	\$ 37.00	\$120.00
Graduate Students	53.00	172.00
Dentistry Students	101.00	252.00
Medicine Students	93.00	244.00
Daily Athenaeum Fee*	1.00	1.00
Radio Station Fee*	1.00	1.00
Health, Counseling, and Program Services Fee	24.00	24.00
Mountainlair Construction Fee, per 6-week summer session or any portion thereof*	15.00	15.00
Student Affairs Fee	8.00	8.00
Transportation Fee	17.00	17.00

*Fee required of all students. (Nonrefundable unless student withdraws officially before the close of general registration.)

Refund of Fees

A student who officially withdraws from University courses may arrange for a refund of fees by submitting to the University Controller evidence of eligibility for a refund during the semester.

To withdraw officially, a student must apply to the Division of Student Affairs for permission. Semester fees will be returned in accordance with the following schedule:

<i>Academic Year (Semester)</i>	<i>Refund</i>
During the first and second weeks	90%
During the third and fourth weeks	70%
During the fifth and sixth weeks	50%
Beginning with the seventh week	No Refund

Summer Sessions and Non-Traditional Periods

Refunds for summer sessions and non-traditional periods are established based upon the refund rate for the academic year. (For specific information concerning Summer Session refunds, see the appropriate *Summer Schedule of Courses*.) Should the percentage calculation identify a partial day, the entire day will be included in the higher refund period.

No part of the Activity Fee is refundable unless the student withdraws from the University.

University policy provides that students called to the armed services of the United States may be granted full refund of refundable fees, but no credit, if the call comes before the end of the first three-fourths of the semester, and that the full credit of courses be granted to persons called to the armed services of the United States if the call comes thereafter; provided, however, that credit as described above will be granted only in those courses in which the student is maintaining a passing mark at the time of departure for military service. In the recording of final grades, for three-fourths of a semester or more, both passing and failing grades are to be shown on the student's permanent record.

Service Charge on Returned Checks

A service charge of \$10.00 shall be collected on each check returned unpaid by the bank upon which it is drawn.

If the check returned by the bank was in payment of University and registration fees, the Controller's Office shall declare the fees unpaid and registration cancelled if the check has not been redeemed within three days from date of written notice. In such a case the student may be reinstated upon redemption of the check, payment of the \$10.00 service charge, the Reinstatement Fee of \$10.00, and the Late Registration Fee of \$20.00.

Non-Sufficient Funds Check Policy

Payments of tuition, fees, and other charges by check are subject to WVU's Non-Sufficient Funds Check Policy. A copy of this policy is available in the Bursar's Office.

Identification Card

An identification card is issued to each full-time student upon paying full fees. It entitles the owner admission to certain University athletic events, various activities of student administration, Health Service, and Mountainlair. Confiscation will result from misuse. The University reserves the right to refuse reissuance of an identification card.

Policy Regarding Residency Classification Of Students for Admission and Fee Purposes

Section 1. Classification for Admission and Fee Purposes

1.1 Students enrolling in a West Virginia public institution of higher education shall be assigned a residency status for admission, tuition, and fee purposes by the institutional officer designated by the President. In determining residency classification, the issue is essentially one of domicile. In general, the domicile of a person is that person's true, fixed, permanent home and place of habitation. The decision shall be based upon information furnished by the student and all other relevant information. The designated officer is authorized to require such written documents, affidavits, verifications, or other evidence as is deemed necessary to establish the domicile of a student. The burden of establishing domicile for admission, tuition, and fee purposes is upon the student.

1.2 If there is a question as to domicile, the matter must be brought to the attention of the designated officer at least two weeks prior to the deadline for the payment of tuition and fees. Any student found to have made a false or misleading statement concerning domicile shall be subject to institutional disciplinary action and will be charged the nonresident fees for each academic term theretofore attended.

1.3 The previous determination of a student's domiciliary status by one institution is not conclusive or binding when subsequently considered by another institution; however, assuming no change of facts, the prior judgment should be given strong consideration in the interest of consistency. Out-of-state students being assessed resident tuition and fees as a result of a reciprocity agreement may not transfer said reciprocity status to another public institution in West Virginia.

Section 2. Residence Determined by Domicile

2.1 Domicile within the State means adoption of the State as the fixed permanent home and involves personal presence within the State with no intent on the part of the applicant or, in the case of a dependent student, the applicant's parent(s) to return to another state or country. Residing with relatives (other than parent(s)/guardian) does not, in and of itself, cause the student to attain domicile in this State for admission or fee payment purposes. West Virginia domicile may be established upon the completion of at least twelve months of continued presence within the State prior to the date of registration, provided that such twelve months' presence is not primarily for the purpose of attendance at any institution of higher education in West Virginia. Establishment of West Virginia domicile with less than twelve months' presence prior to the date of registration must be supported by evidence of positive and unequivocal action. In determining domicile, institutional officials should give consideration to such factors as the ownership or lease of a permanently occupied home in West Virginia, full-time employment within the State, paying West Virginia property tax, filing West Virginia income tax returns, registering of motor vehicles in West Virginia, possessing a valid West Virginia driver's license, and marriage to a person already domiciled in West Virginia. Proof of a number of these actions shall be considered only as evidence which may be used in determining whether or not a domicile has been established. Factors militating against the establishment of West Virginia domicile might include such considerations as the student not being self-supporting, being claimed as a dependent on federal or state income tax returns, or the parents' health insurance policy if the parents reside out of state, receiving financial assistance from state student aid programs in other states, and leaving the State when school is not in session.

Section 3. Dependency Status

3.1 A dependent student is one who is listed as a dependent on the federal or state income tax return of his/her parent(s) or legal guardian or who receives major financial support from that person. Such a student maintains the same domicile as that of the parent(s) or legal guardian. In the event the parents are divorced or legally separated, the dependent student takes the domicile of the parent with whom he/she lives or to whom he/she has been assigned by court order. However, a dependent student who enrolls and is properly classified as an in-state student maintains that classification as long as the enrollment is continuous and that student does not attain independence and establish domicile in another state.

3.2 A nonresident student who becomes independent while a student at an institution of higher education in West Virginia does not, by reason of such independence alone, attain domicile in this State for admission or fee payment purposes.

Section 4. Change of Residence

4.1 A person who has been classified as an out-of-state student and who seeks resident status in West Virginia must assume the burden of providing conclusive evidence that he/she has established domicile in West Virginia with the intention of making the permanent home in this State. The intent to remain indefinitely in West Virginia is evidence not only by a person's statements, but also by that person's actions. In making a determination regarding a request for change in residency status, the designated institutional

officer shall consider those actions referenced in Section 2 above. The change in classification, if deemed to be warranted, shall be effective for the academic term or semester next following the date of the application for reclassification.

Section 5. Military

5.1 An individual who is on full-time active military service in another state or foreign country or an employee of the federal government shall be classified as an in-state student for the purpose of payment of tuition and fees, provided that the person established a domicile in West Virginia prior to entrance into federal service, entered the federal service from West Virginia, and has at no time while in federal service claimed or established a domicile in another state. Sworn statements attesting to these conditions may be required. The spouse and dependent children of such individuals shall also be classified as in-state students for tuition and fee purposes.

5.2 Persons assigned to full-time active military service in West Virginia and residing in the State shall be classified as in-state students for tuition and fee purposes. The spouse and dependent children of such individuals shall also be classified as in-state students for tuition and fee purposes.

Section 6. Aliens

6.1 An alien who is in the United States on a resident visa or who has filed a petition for naturalization in the naturalization court, and who has established a bona fide domicile in West Virginia as defined in Section 2 may be eligible for in-state residency classification, provided that person is in the State for purposes other than to attempt to qualify for residency status as a student. Political refugees admitted into the United States for an indefinite period of time and without restriction on the maintenance of a foreign domicile may be eligible for an in-state classification as defined in Section 2. Any person holding a student or other temporary visa cannot be classified as an in-state student.

Section 7. Former Domicile

7.1 A person who was formerly domiciled in the state of West Virginia and who would have been eligible for an in-state residency classification at the time of his/her departure from the state may be immediately eligible for classification as a West Virginia resident provided such person returns to West Virginia within a one year period of time and satisfies the conditions of Section 2 regarding proof of domicile and intent to remain permanently in West Virginia.

Section 8. Appeal Process

8.1 The decisions of the designated institutional officer charged with the determination of residency classification may be appealed to the President of the institution. The President may establish such committees and procedures as are determined to be appropriate for the processing of appeals. The decision of the President of the institution may be appealed in writing with supporting documentation to the West Virginia Board of Regents in accord with such procedures as may be prescribed from time to time by the Board.

Medical Center Basic Sciences— Programs and Courses of Instruction

The Departments of Anatomy, Biochemistry, Microbiology, Pharmacology and Toxicology, and Physiology offer individual graduate programs leading to the M.S. and Ph.D. degrees and provide courses for students of medicine, dentistry, pharmacy, nursing, and other allied health professions.

(Detailed information concerning graduate studies academic information is presented in the *WVU Graduate Catalog*.)

Anatomy

The Department of Anatomy offers graduate programs which are committed to the training of competent researchers and capable teachers. This is accomplished by the completion of a carefully designed plan of study tailored to the individual student's interests. The program begins with instruction in basic morphological, developmental, and functional aspects of human anatomy. Additional related course work and electives are required. These selected courses strengthen the area of interest of the student. The student then conducts an original research project which culminates in a dissertation (Ph.D.) or a thesis (M.S.).

Admission Requirements

In addition to the admission procedure of the University, the Department of Anatomy requires that each applicant complete a departmental application form obtained from the department. After an application is favorably reviewed by the departmental Graduate Studies Committee, applicants are invited for a personal interview whenever practical. The applicant is admitted by a majority vote of the departmental Graduate Faculty.

It is recommended that the following courses be completed before entering the graduate program: algebra, trigonometry, general physics, inorganic and organic chemistry, general biology or zoology, comparative anatomy, embryology, genetics, cell biology or general physiology, and two years of French, German, or Russian. At the discretion of the department, a student may be allowed to complete a limited number of prerequisites after enrolling in the program. A grade-point average above 3.0 is desirable. The aptitude portion and an advanced section of the Graduate Record Examination are generally required. Also, three letters of recommendation from persons who can best evaluate the applicant's potential for graduate study should either accompany the application or be mailed to the Department of Anatomy separately. Applicants desiring consideration for financial aid should complete the application process as early as possible.

Doctor of Philosophy

The first year of study usually consists of required course work within the Department of Anatomy. These courses include gross anatomy, micro-anatomy, neurobiology, introduction to research, and seminar in anatomy. Required courses in other basic medical sciences, such as biochemistry and physiology, are usually taken in the second year. Twelve hours of additional graduate-level courses are also required. These requirements will have been satisfied when the student earns a grade of at least B in each of the courses

taken in the Department of Anatomy and has maintained a required 2.75 overall grade-point average.

To be admitted to candidacy for the Ph.D. degree, the student must satisfy the above requirements, pass a written and oral comprehensive preliminary examination, and prepare a plan for a research project to be undertaken for the dissertation. To be recommended for the Ph.D. degree each student must complete a dissertation based on original research and defend the dissertation at an oral examination.

This program allows flexibility for each student. The precise plan of study is designed by the student and an Advisory Committee, which is composed of faculty members selected by the student.

The student often culminates the training period with presentations at regional and/or national scientific meetings.

Master of Science

The master's program in anatomy is offered as a terminal degree primarily for students in certain specialized fields, such as physical therapy or in a conjoint program in dentistry or medicine. It is not necessary for the student to complete the M.S. degree in order to qualify for admission into the Ph.D. program, although the student may elect to complete the requirements for this degree in progress toward the Ph.D.

An applicant who shows a special need for the M.S. degree must generally be as well qualified as applicants for the doctoral program. The M.S. student must complete courses in gross anatomy and microanatomy and 6 to 9 hours of required and elective courses. A 2.75 grade-point average must be maintained. In addition to course work, the student must complete a thesis based on original research and defend the thesis at an oral comprehensive examination.

Research and Instruction

Research Areas—Gross Anatomy: Anatomical variations and anomalies, and electromyographic studies of specific muscle groups. Microscopic Anatomy: Studies of cells, tissues, and organs, under normal and experimental conditions with *in vivo* microscopic, histochemical, electron microscopic, autoradiographic, and fluorescent techniques. Developmental Anatomy: Experimental and descriptive embryology, cellular differentiation, and dedifferentiation, regeneration and the effects of drugs and other environmental agents on development. Neuroanatomy: Experimental, comparative, and embryological studies of specific nerve cell groups and nerve pathways in the spinal cord, brain stem, cerebellum, and cerebrum.

Anatomy (Anat.)

101. *Principles of Human Anatomy*. (For paramedical students only.) I. 3-4 hr. PR: Biol. 2 or equiv.; consent of instructor or chairperson. Lectures and demonstrations on the gross and microscopic anatomy of the human body including development.
102. *Gross Anatomy*. (For physical therapy students.) II. 3 hr. PR: Anat. 101 and/or consent of instructor or chairperson. Functional gross anatomy of the back, extremities, head, and neck.
109. *Oral Histology*. (For dental hygiene students.) II. 3 hr. PR: Consent of instructor or chairperson. Histological structure and embryological development of the teeth, tissues, and organs of the oral cavity.

152. *Introduction to Physical Anthropology*. II. 3 hr. PR: Consent of instructor or chairperson. Man's physical heritage (human evolution) in principle and through paleontology, man's current physical nature (race and ecology), and biologic basis of man's culture. (Same as *Sociology and Anthropology* 152.)
301. *Gross and Developmental Anatomy: Trunk*. (For medical and a limited number of regular full-time graduate students in the medical basic sciences.) I. 5 hr. PR: Medical student standing or consent of chairperson. Gross anatomical study of the back, thorax, abdomen, pelvis, and perineum emphasizing clinically-related concepts.
302. *Gross and Developmental Anatomy: Head-Neck*. (For medical and a limited number of regular full-time graduate students in the medical basic sciences.) I. 3 hr. PR: Medical student standing or consent of chairperson. Gross anatomical study of the head and neck emphasizing clinically-related concepts.
304. *Gross and Developmental Anatomy: Extremities*. (For medical students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 2 hr. PR: Medical student standing or consent of chairperson. Gross anatomical and developmental study of the upper and lower limbs emphasizing clinically-related concepts.
305. *Microanatomy*. (For medical students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 5 hr. PR: Medical student standing or consent of chairperson. Cells, tissues, and organs.
306. *Gross Anatomy of the Trunk and Extremities*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 4 hr. PR: Dental student standing or consent of instructor or chairperson. Gross anatomical study of the back, upper extremities, thorax, abdomen, and pelvis.
307. *Gross Anatomy of the Head and Neck and Neuroanatomy*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 5 hr. PR: Dental student standing or consent of instructor or chairperson. Gross anatomical study of the head and neck and a brief gross and microscopic anatomical study of the central nervous system.
308. *Neuroanatomy*. (For students in physical therapy and a limited number of regular full-time graduate students in the medical basic sciences, and students in other health sciences.) II. 2 hr. PR: Consent of instructor or chairperson. Gross and microscopic structure of the central nervous system.
309. *Microanatomy and Organology*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) I. 5 hr. PR: Dental student standing or consent of chairperson. Cells, tissues, and organs.
312. *Special Topics in Anatomy*. I, II. 2-4 hr. per sem. PR: Anat. 301 or 306; and Anat. 305 or 309; consent of chairperson. Different topics of current interest in anatomy that are not included in the regular graduate courses.
314. *Applied Anatomy*. I, II. 2-6 hr. per sem. PR: Consent of instructor or chairperson. Detailed study of anatomy adapted to the needs of the individual student.
316. *Craniofacial Growth and Maturation*. I. 3 hr. PR: Anat. 315 or consent of instructor. The current concepts of craniofacial growth and maturation are presented and integrated for application to clinical problems.
318. *Oral Histology and Embryology*. (For dental students and a limited number of regular full-time graduate students in the medical basic sciences.) II. 2 hr. PR: Dental student standing or consent of instructor or chairperson. Structure, function, and development of oral tissues.
319. *Advanced Head and Neck Anatomy*. 1 hr. PR: Dental, medical, or graduate student in basic sciences, or consent. Head and neck craniofacial anatomy as it applies to specialties in dental or medical practice.

375. *Neurobiology*. (For medical and limited number of regular full-time graduate students in the medical basic sciences.) II. 6 hr. PR: Anat. 301 and Physi. 345, or consent. Anatomy and physiology of the nervous system correlated with clinical neurology. (See also CC MD 375—Neurobiology.)
401. *Advanced Gross Anatomy*. I, II. 2-6 hr. per sem. PR: Anat. 301, 302, 304, or 306, 307 and consent of instructor or chairperson. Morphological and functional analysis of a selected region, with dissection.
402. *Advanced Developmental Anatomy*. II. 2-4 hr. per sem. PR: Anat. 301, 302, 304, and consent of instructor or chairperson. Detailed developmental anatomy of the fetal period and infancy. With dissections and analysis of variations and malformations.
403. *Seminar*. I, II. 1-6 hr. (1 hr. per sem.) (Course may be repeated.) PR: Consent of Graduate Committee. Special topics of current or historical interest.
405. *Experimental Embryology*. II. (Alternate Years.) 3 hr. PR: Embryology and cellular physiology or biochemistry and consent of instructor or chairperson. Development, differentiation, and regeneration.
406. *Advanced Neuroanatomy*. I. 2-4 hr. per sem. (Course may be repeated.) PR: CCMD 375 and consent of instructor or chairperson. Detailed study of selected areas of the nervous system.
408. *Histochemistry*. II. (Odd Numbered Years.) 3 hr. PR: Anat. 305 or 309, biochemistry, and consent of instructor or chairperson. Histochemical theory and techniques.
451. *Advanced Microanatomy*. I, II, or S. 2-4 hr. PR: Anat. 305 or 309, or Biol. 263 and consent of instructor or chairperson. An extension of the major topics included in Anat. 305 or 309. Special emphasis on recent contributions.
490. *Teaching Practicum I and II*. 1-3 hrs. Consent of chairperson. Supervised practice in college teaching of anatomy. Graded as S or U.
491. *Advanced Anatomy*. I, II. 1-6 hr. PR: Consent of chairperson.
497. *Research*. I, II, S. 1-15 hr. PR: Consent of Graduate Committee. (May be repeated as needed with consent of Graduate Studies Committee.)

Biochemistry

Graduate programs in the Department of Biochemistry are designed to assist students in the development of their own capabilities for independent thought and research. All students are provided with a strong biochemistry background; however, the program has sufficient flexibility to allow individual students to select advanced specialty courses in biochemistry which are of particular importance to their career goals. Faculty research problems are of current interest and are diverse, reflecting the broad spectrum of areas encompassing biochemistry.

Admission Requirements

A prospective graduate student should hold a bachelor's degree with a science major and should have successfully completed courses in qualitative-quantitative chemical analysis, organic chemistry, calculus, physics, and physical chemistry. In some cases, a deficiency in the above may be made up after admission into the program.

Application is made by submission of the following items to the Department of Biochemistry: (a) the completed departmental application form (sent on request); (b) three letters of recommendation from professors who can evaluate the student's present abilities and potential; (c) official transcript of the applicant's college grades; and (d) official copy of Graduate Record Examination scores. Owing to the sequence of courses, entrance in the

fall is preferred, but exceptions may be made as necessary. Application material and program details may be obtained by writing: The Graduate Coordinator, Department of Biochemistry, School of Medicine, West Virginia University, Morgantown, WV 26506. The deadline for receipt of applications and supporting documents by the department is June 1; to be considered for financial support, applications should be submitted much earlier, preferably by February 1.

Doctor of Philosophy

To assure that all students become familiar with the basic principles of biochemistry, the first year of the Doctor of Philosophy (Ph.D.) program is devoted primarily to course work. In addition to formal courses during the first semester, students participate in a laboratory program which involves all faculty members. This laboratory experience is designed to illustrate the basic research skills involved in biochemistry. During the second semester, students will undertake research in at least two laboratories of their choice.

Upon successful completion of the first year, students will choose a dissertation research adviser, at which time emphasis will be placed on research. During the second year, specialized courses in biochemistry will be offered as the students continue their research programs. During subsequent years, the students emphasize independent thesis research, and a few formal courses are taken.

An essential component of the Ph.D. program is participation in departmental journal clubs and seminars. Both students and faculty participate, thus students learn to effectively organize and present research material to a large group of people.

Completion of the Ph.D. program is realized when the student successfully presents the research results to both the Department of Biochemistry and a graduate advisory committee. Typically, four years are required to realize this goal.

Master of Science

The Department of Biochemistry offers the thesis master's degree. This program involves completion of a master's research project in addition to formal course work. Two to three years are generally required to complete the M.S. program.

Research and Instruction

Research Areas—Hormonal regulation of metabolism. Structure and function of nucleic acids. Chemistry of enzymes and serum proteins. Structure of connective tissue. Nutritional oncology. Secretory mechanisms. Biogenesis of membranes. Regulation of gene expression.

Biochemistry (Bioch.)

139. *Introduction to Biochemistry*. I. 4-5 hr. PR: General chemistry. (For medical technology and pharmacy students; others by consent.) Lecture and conference, 4 hr.; Laboratory/demonstration, 1 hr.
192. *Selected Topics in Biochemical Research*. I, II, S. 1-6 hr. (May be repeated for a maximum of 12 hr.) PR: Consent.
231. *General Biochemistry*. I. 7 hr. PR: General chemistry, organic chemistry. (For medical students; others by consent.) Consists of seven main lectures, one clinical correlation lecture and one problem session per week.

239. *Clinical Chemical Techniques*. II. 4 hr. PR: Bioch. 139, 231 or equiv. (Primarily for medical technology students; open to other qualified students by consent.)
305. *General Biochemistry*. II. 4 hr. PR: Inorganic chemistry, organic chemistry, and consent. (For dental and graduate students.) Lecture, conference, and demonstration.
- 310/312. *General Biochemistry*. (Offered in conjunction with the Department of Agricultural Biochemistry.) I, II. 4 hr. per sem. PR: General chemistry, organic chemistry. (For graduate students in basic sciences programs.)
399. *Special Topics*. I, II. 1-2 hr. PR: Consent. Journal Club, Teaching, and Laboratory Rotations.
490. *Teaching Practicum I and II*. 1-3 hrs. Consent of chairperson. Supervised practice in college teaching of biochemistry. Graded as S or U.
491. *Advanced Study*. I, II. 1-6 hr. PR: Consent. Physical techniques in biochemistry; nucleic acids; enzymology and protein chemistry; metabolic regulation (each topic—one semester; offered alternate years). Designed primarily to provide a background for students who will do research in biochemistry and molecular biology. (*Nucleic Acids*—Fall, 1987; *Cell Biology*—Spring, 1988; *Metabolic Regulation*—Fall, 1988; *Enzymology*—Spring, 1989.)
496. *Graduate Seminar*. I, II. 1 hr. PR: Consent. Presentation and discussion of special topics.
497. *Research*. I, II, S. 1-15 hr. PR: Consent.

Conjoined Basic Sciences Courses

In the curricula of the School of Medicine, certain courses are conducted on nondepartmental or interdepartmental lines. These have been designed as Conjoined Courses.

Conjoined Basic Sciences Courses (CC MD)

320. *Electron Microscopy*. II. 2-4 hr. PR: Consent. (For graduate students, upperclass students in the sciences, medical students.) Interdisciplinary. Introduction to cell fine structure and function. Preparation of biological specimens for electron microscopy.
350. *Radiation Safety and Radionuclide Usage*. II. 1-2 hr. PR: Phys. 1 and 2, Chem. 15 and 16 or consent. Chemical, physical, and biological aspects of radiation; safety; handling and storage of radioactive materials; NRC and WVU regulations and licensing; detection and instrumentation, research, and clinical use of radioisotopes.
370. *Medical Genetics*. II. 2-4 hr. PR: Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as Gen. 370, Med. 370, Pedia. 370.)
375. *Neurobiology*. (For medical and a limited number of regular, full-time graduate students in the medical basic sciences.) II. 6 hr. PR: Anat. 301 and Physi. 345, or consent. Anatomy and physiology of the nervous system correlated with clinical neurology.
399. *Selective Experiences in Medicine. (Fourth Year.)* I, II, S. CR. PR: Satisfactory completion of the first three years of medical curriculum. (Graded as S or U.) The fourth year is selective and offers a wide range of opportunities. The student works with the adviser to select the individual program. This program must also be approved by the fourth-year curriculum coordinator in the Office of Student Affairs. The year is composed of eleven 4-week blocks, sixteen of which must be spent in intramural programs on the Morgantown campus or at the Charleston Division—WVU Medical Center. A Catalog is available that lists the specific guidelines for the fourth-year curriculum as well as approved intramural and in-state extramural selectives.

Microbiology

The Department of Microbiology offers programs of study leading to the degrees of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in Medical Microbiology. The basic philosophy of the department is that the students have a strong foundation in basic concepts of microbiology and flexibility in choosing advanced course work in their specific areas of interest. The students are given extensive training in microbiological research methodology. The overall aim of the program is to produce students capable of teaching microbiology and designing and doing independent research in microbiology.

Admission Requirements

Applicants must have had at least four upper-level courses in the biological sciences, two semesters of organic chemistry, two semesters of physics, and a strong background in mathematics—including calculus—in order to be considered for admission. Applicants must submit to the Department of Microbiology a departmental application form, three letters of recommendation, and Graduate Record Examination (GRE) scores—both aptitude and advanced. In addition, transcripts and an official application for admission must be sent directly to the WVU Office of Admissions and Records, P.O. Box 6009, Morgantown, WV 26506-6009. Applicants for admission to a degree program should have a grade-point average of 3.0, or better, and a score of 600 or above on each of the GRE examinations. Early application is encouraged. Applicants desiring financial aid should complete their application before January 1. All applications must be completed by June 1 for fall admission. Applications for admission in the spring semester must be completed by November 1.

Program Requirements

Master of Science (M.S.)

Every student must take courses or demonstrate proficiency by examination in each of the following areas: M. Bio. 310 (Structure and Activities of Microorganisms), M. Bio. 317 (Special Problems in Basic Immunology). At least 3 hours of credit in one or more of the following M. Bio. 491 courses must be completed: Genetics, Immunobiology, Microbial Physiology (including laboratory). The student must also enroll in M. Bio. 391—Advanced Topics. Two semesters of biochemistry are required. The remainder of the course work is selected by the student and the advisory committee from the following courses: M. Bio. 301, 327, 399, or from any of the Microbiology Advanced Study courses (M. Bio. 491). M. Bio. 496—Seminar is a required course each semester that the student is in residence. All full-time students in the Department of Microbiology are required to participate in teaching at least one semester a year.

The Master of Science program requires 30 hours course work of which at least 20 hours must be in microbiology. Six hours must be in research (M. Bio. 397). A thesis representing original research and a final oral examination are required. A grade-point average of at least 3.0 must be maintained. In general, two years are needed to complete the M.S. program.

Doctor of Philosophy (Ph.D.)

The Doctor of Philosophy candidate must demonstrate knowledge in microbiology and biochemistry equivalent to that of an M.S. student. In

addition, appropriate course work as determined by the student's research advisory committee with a grade-point average of 3.0 is required. Where appropriate, course work in related subjects such as computer science, cell biology, biochemistry, physical chemistry, and statistics will be required. M. Bio. 496—Seminar is a required course each semester that the student is in residence. The Doctor of Philosophy program requires a dissertation representing the results of an original research investigation and passing of qualifying and final oral examinations. All full-time students are required to participate in teaching at least one semester a year. Three years are usually needed to complete the Ph.D. program.

Other

The Department of Microbiology has informal noon-hour journal clubs in immunology and in microbiology. All students are expected to participate in one or more.

For additional information write to the Chairperson, Department of Microbiology, WVU Medical Center, Morgantown, WV 26506.

Research and Instruction

Research Areas—Pathogenic Bacteriology: mode of action of microbial products in pathogenicity; identification and classification of anaerobic microorganisms including filamentous bacteria; oral microbiology; ecology of the oral cavity; clinical microbiology. Mycology: pathobiology of medical mycoses; environmental health implications of fungal and algal toxicoses. Physiology: nutrition and metabolism of a variety of pathogenic microorganisms; growth and protein synthesis in obligate intracellular bacteria. Genetics: basic studies on the mechanisms of genetics including transfer of genetic information; recombinant DNA studies. Virology: development of rapid viral diagnostic tests, cytomegalovirus molecular genetics; glycoproteins in cytomegalovirus infection, papilloma virus diseases; bacteriophage-host interactions. Parasitology: host-parasite relationships between helminth parasites and insects and vertebrate hosts; endosymbionts in protozoa. Immunology: immunopathology of pulmonary disease; inflammatory response to inhaled organisms; developmental aspects of immunity; mechanisms of T-cell function. Other programs: detection of environmental pollutants; effect of environmental agents on host resistance.

Microbiology (M. Bio.)

- 26. *Microbiology*. (For students in nursing-dental hygiene programs.) I. 4 hr. PR: Chem. 11, 12 or equiv.
- 220. *Microbiology*. (For pharmacy students.) II. 4 hr. PR or Conc.: Biochemistry. Pathogenic microorganisms, including immunology and antimicrobial agents.
- 223. *Microbiology*. (For medical technology students; graduate students with consent.) II. 5 hr. PR or Conc.: Organic chemistry. Basic microbiology. Emphasis on immunology, pathogenic microorganisms, and clinical laboratory techniques.
- 224. *Parasitology*. (For medical technology students.) II. 4 hr. Study of animal parasites and disease vectors with emphasis on disease manifestations, parasite biology, and laboratory diagnosis.
- 301. *Microbiology*. (For medical students only.) I. 5-7 hr. PR: Organic chemistry, biochemistry. Detailed study of pathogenic microorganisms and immunology. Emphasis on use of microbiology in solving clinical problems.
- 302. *Microbiology*. (For dental students only.) I. 5 hr. PR: Organic chemistry. Detailed study of pathogenic microorganisms. Emphasis on oral flora.

310. *Structure and Activities of Microorganisms*. I. 2 hr. PR or Conc: Biochemistry; consent. Structure and function of microbes.
317. *Special Problems in Microbiology*. I, II, S. 1-7 hr. per sem.
 - A. *Special Problems in Basic Immunology*. I. 2 hr. PR or Conc.: M. Bio. 310; biochemistry; consent.
 - B. *Special Problems in Microbiology*. I, II, S. VR. PR: Consent.
327. *Parasitology*. (For graduate students.) II. 4 hr. PR: Consent. Study of animal parasites and disease vectors with emphasis on disease manifestations, parasite biology, laboratory diagnosis, and current concepts in parasitological research.
391. *Advanced Topics*. I. 3 hr. PR: Consent. Assigned study to develop research laboratory techniques. (Graded as S or U.)
397. *Master's Degree Research or Thesis*. I, II, S. 1-15 hr. PR: M. Bio. 310, 317A, 391. Students may enroll more than once. (Graded as S or U.)
399. *Special Topics in Microbiology, Cell Biology*. II. 3 hr. PR: Biochemistry; 1 yr. undergraduate biology; consent. Lectures in selected areas of cell biology.
490. *Teaching Practicum*. I and II. 1-3 hr. PR: Consent. Supervised practices in college teaching of microbiology. (Graded as S or U.)
491. *Advanced Study*.
 - Pathogenic Virology*. I. 3 hr. PR: M. Bio. 310 and 317A or equiv., consent. Pathogenesis of medically important viruses and mechanisms for their control.
 - Pathogenic Bacteriology*. I. 3 hr. PR: M. Bio. 310, 317A or equiv., consent. Pathogenic bacteriology, with an emphasis on the mechanisms of pathogenesis. Topics include microbial adherence, toxin production and mechanisms, and normal flora and disease.
 - Clinical Laboratory Bacteriology*. I, II. VR. PR: M. Bio. 310, 317A or equiv., consent. Lectures on the identification of pathogenic microorganisms with an emphasis on bacteria. Laboratory includes a rotation through the hospital clinical microbiology laboratory. Limited enrollment. (Graded as S or U.)
 - Microbial Genetics*. I. 4 hr. PR: M. Bio. 310 or equiv., consent. Molecular aspects of mutation, gene transfer mechanisms, genetic mapping, and genetic control using bacteria and bacteriophage systems as models.
 - Microbial Metabolism*. II. 2 hr. PR: M. Bio. 310, biochemistry, consent. Physiology, metabolism, and regulation of representative microbial groups.
 - Microbial Metabolism Laboratory*. II. 1 hr. Open to departmental graduate students only. Research techniques in metabolic regulation.
 - Immunobiology*. II. 3 hr. PR: M. Bio. 317A or equiv., consent. Discussion of the biological and cellular aspects of immunology. Immunobiology, immunopathology, and cellular immunology receive strong emphasis. (This course is designed to complement Bioch. 423.)
 - Medical Mycology*. I. 4 hr. PR: Consent. Advanced study of the fungi of medical importance, including the pathobiology of mycoses and toxicoses.
 - Clinical Laboratory Virology*. S. 3 hr. per 6-week session. PR: M. Bio. 491 (Pathogenic Virology) or equiv.; consent. Lectures and laboratories on isolation of viruses from clinical specimens. Includes serological methods.
 - Molecular Virology*. I. 3 hr. PR: M. Bio. 310 and 317A or equiv.; consent. Molecular biology of viruses that are important both biologically and medically. Includes a basic introduction to replication and genetics as well as current topics in molecular virology.
496. *Seminar*. I, II. 1 hr. PR: M. Bio. 310 or equiv. (Graded as S or U.)
497. *Ph.D. Research or Dissertation*. I, II, S. 1-15 hr. Students may enroll more than once. (Graded as S or U.)

Pathology

Research Areas—Atherosclerosis; thrombosis; platelet aggregation and functions with correlative ultrastructural study, lipid and lipoprotein metabolism in cultured human endothelial cells; morphometric (including electron microscopic) and biochemical studies on the progression of atherosclerotic lesions in humans; regression of experimental atherosclerotic lesions; ultrastructural aspects of renal disease; ultrastructural reflections of dedifferentiation in neoplasia; histogenesis of neoplasia; biomedical application of laboratory medicine; and applied laboratory studies in microbiology.

Pathology (Path.)

128. *Introduction to Basic Pathology*. I. 2 hr. PR: Enrollment in dental hygiene or physical therapy, or consent. A study of the basic pathologic processes in man.
129. *Introduction to Oral Pathology*. II. 3 hr. PR: Path. 128, dental hygiene major, or consent. Application of fundamental knowledge of general pathology to pathological conditions that occur in the oral cavity.
328. *Basic Pathology*. (For dental students and graduate students, with consent.) II. 5 hr. PR: Anat. 309. General changes in basic pathologic processes and changes evoked in specific organ systems as a basis for understanding clinical disease.
338. *Oral Pathology 1*. II, S. 3 hr. PR: Path. 328, or consent. Clinical, radiographic, and microscopic discussion of local and systemic diseases affecting oral and paraoral structures.
350. *Hematology*. 3 hr. (For certain graduate students, with consent of the chairperson.) Includes morphologic description of formed elements of blood including classification of red blood cell, white blood cell, and platelet disorders. Case material and slide reviews are integral parts of the course work.
351. *Pathology and Laboratory Medicine 1*. (For medical students and limited number of regular full-time graduate students in medical basic sciences and consent of the chairperson.) I. 8 hr. PR: Medicine I Curriculum. Presents pathology as a body of knowledge and a discipline, including laboratory aspects of disease. General pathology, including cell injury, inflammation, neoplasia, thrombosis and circulatory disturbances, is followed by a systemic approach to disease states.
352. *Pathology and Laboratory Medicine 2*. (For medical students and limited number of regular full-time graduate students in medical basic sciences and consent of the chairperson.) II. 7 hr. PR: Path. 351. Continuation of Path. 351.
353. *Oral Pathology 2*. I. 2 hr. PR: Path. 338; consent. Continuation of Path. 338.
355. *Oral Disease Diagnosis and Management*. (For dental students, third year.) II. 1 hr. PR: Path. 338, 353, consent. Oral and systemic diseases are presented clinically, radiographically, and histologically. Diagnosis is established and treatment arrived at through group discussion.
356. *Advanced Pathology*. I, II. 3 hr. PR: Path. 328 or 351; consent. Microscopic and gross specimens from selected autopsies.
382. *Oral Histopathology*. I, II. 1-2 hr. PR: Path. 338, 353, consent. Microscopic study of head and neck lesions.
401. *Special Studies in Oral Pathology*. I, II. 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.
491. *Advanced Study*. 1-3 hr. PR: Consent. Specialized study in subspecialty, such as blood banking, clinical chemistry, immunopathology. (*Special lectures and/or seminar.*)
497. *Research*. I, II. 1-15 hr. PR: Consent.

Pharmacology and Toxicology

Pharmacology and Toxicology involve all aspects of the action of drugs on living systems and their constituent parts. These range from the chemical reactions taking place within cells to the evaluation of a drug in the treatment of human disease. The Department of Pharmacology and Toxicology offers graduate studies leading to the degrees of Master of Science and Doctor of Philosophy, with research concentrations in such areas as autonomic pharmacology, biochemical pharmacology, neuropharmacology, molecular pharmacology, cardiovascular pharmacology, endocrine pharmacology, pharmacogenetics, malarial chemotherapy, immunotoxicology, and renal, hepatic, and pulmonary toxicology.

Admission Requirements

Regular applicants for the graduate program in pharmacology and toxicology should present, as a minimum, the following undergraduate courses: one semester of biology; two semesters of physics; one semester of calculus; five semesters of chemistry including two semesters of organic chemistry and one semester of physical chemistry. Reading knowledge of at least one foreign language is strongly recommended. Three letters of recommendation from science professors, an official transcript, and the results of the Graduate Record Examination—including the advanced test in either chemistry or biology—are also required. The prospective student should have a minimum 3.0 overall grade-point average at the undergraduate level.

In general, students requesting financial support should have all credentials forwarded by February 1. For additional information write: Director of Graduate Studies, Department of Pharmacology and Toxicology, WVU Medical Center, Morgantown, WV 26506.

Master of Science

Ordinarily the department does not accept graduate students solely into a master's program. However, the master's degree is offered and is available as an intermediate degree en route to the Ph.D. Its primary function, as viewed by the faculty, is as an aid to the student new to research for the formulation, conduct, and writing of an abbreviated, but complete, independent research project (thesis). The course work requirements for the M.S. in pharmacology and toxicology usually consist of Physiology 344 and 345, Biochemistry 231, Statistics 311, Pharmacology and Toxicology 361, 363, 364, 367, 461, 462, and 497. Most students may, with the faculty's concurrence, choose to proceed directly with their doctoral research without a master's degree. These students must submit a comprehensive progress report on their research in lieu of a thesis.

Doctor of Philosophy

Before official admission to candidacy for the doctorate, the student must satisfactorily complete a grant writing exercise, an acceptable progress report, and an oral comprehensive qualifying examination. When a student has submitted a grant proposal, a committee—ordinarily consisting of at least three members of the Department of Pharmacology and Toxicology and two members from outside the department—is appointed and constitutes the oral examining body. The oral qualifying examination will be administered in January of the student's third year in the program.

Dissertation

Upon admission to candidacy for the degree of Doctor of Philosophy, the candidate must select a topic for the dissertation under the direction of the candidate's adviser, complete a dissertation that makes a contribution to knowledge in the candidate's area of concentration, and pass an oral examination based primarily upon the dissertation. After successful completion of the oral examination and submission of the final copy of the dissertation, the candidate will be recommended for the degree.

Research and Instruction

Research Areas — Autonomic pharmacology: Autonomic regulation of the cardiovascular system and of smooth muscle; sensitivity to autonomic drugs; electrophysiologic studies of cardiac and smooth muscle; synthesis, storage, release, and metabolism of transmitters and adrenal medullary hormones. Chemotherapy: Antimalarial agents, anticancer agents, effects of pharmacological agents on single cell organisms. Biochemical pharmacology: Drug metabolism, effects of drugs on lipid and nucleic acid metabolism. Endocrine pharmacology: Mechanism of action of steroids, metabolism of sex accessory tissues, relationship of hormones to tumor growth and development. Neuropharmacology: Biochemical basis of epilepsy, mechanism of action of anticonvulsant drugs, neuromediators in the central nervous system. Toxicology: Metabolism of toxic agents, pulmonary toxicology, renal toxicology, immunotoxicology, and environmental toxicology, perinatal pharmacology and toxicology. Electron microscopy: Effects of drugs on the ultrastructure of cells.

Pharmacology and Toxicology (Pcol.)

160. *Pharmacology*. (For undergraduate students in the paramedical sciences.) II. 3 hr. Interactions of clinically useful therapeutic agents with the mammalian system.
243. *Pharmacology for Pharmacy Students*. I. 4 hr. PR: Completion of first year in Pharmacy; approval of course director. Principles, pharmacodynamic actions, and therapeutic applications of clinically useful drugs.
360. *Pharmacology and Therapeutics*. (For dental and graduate students.) I. 4 hr. PR: Dental student standing or consent. Lecture and demonstrations on pharmacological actions and therapeutic uses of drugs.
361. *Pharmacology*. (For medical students and a limited number of regular, full-time graduate students in medical basic sciences departments.) II. 6 hr. PR: Consent of department chairperson. Lecture-conference-laboratory on principles, pharmacodynamic actions, and therapeutic applications of clinically useful drugs.
362. *Occupational Toxicology*. II. 3 hr. PR: Consent. General principles of toxicology with special emphasis on occupational health. Classes of chemicals which pose problems in the work place will be emphasized.
363. *Toxicology*. I. 3-4 hr. (Variable credit, majors enroll for 4 hr.; non-majors for 3 hr.) PR: Consent. Theoretical concepts and general principles of toxicology with special emphasis on molecular mechanisms of toxicity. (3-4 hr. lec.)
364. *Advanced Pharmacology*. I. (Alternate Years.) 1-5 hr. PR: Pcol. 361 or consent. Advanced lectures and discussion of general principles of pharmacology and toxicology and advanced lectures in biochemical, endocrine, pulmonary, and cardiovascular pharmacology (1-5 hr. lec.)
367. *Advanced Neuropharmacology*. I. 1-5 hr. PR: Pcol. 361 or consent. Advanced lectures and discussion on drug receptor theory, neurophysiological aspects of pharmacology, supersensitivity, and the actions of drugs on the central and peripheral nervous system. (1-5 hr. lec.)

461. *Seminar in Pharmacology*. I, II. 1 hr. per sem. PR: Pcol. 361 or graduate status in basic medical sciences.
462. *Literature Survey*. I, II. 1 hr. per sem. PR: Graduate status in pharmacology and toxicology. Current literature pertinent to pharmacology and toxicology including journals of allied biological sciences.
490. *Teaching Practicum*. I, II. 1-3 hr. per sem. PR: Pcol. 361 and consent. (For advanced graduate students.) Critical evaluation of preparation and delivery of lectures in specified areas of pharmacology and toxicology.
491. *Advanced Study*. I, II. 1-6 hr. PR: Consent of chairperson.
497. *Research*. I, II, S. 1-15 hr. per sem.

Physiology

The Ph.D. program is designed to produce physiologists of high quality, capable of conducting independent research and being effective teachers. Students in our department are exposed to all aspects of physiology and a variety of related sciences. Our graduates, as a result of this rigorous training, may pursue careers in any area of physiology, and can interact creatively with scientists in related fields. The master's program is designed as an introduction to research in physiology for students interested in, but not yet committed to, a research career. Students in this program receive training in the fundamentals of physiology and experience in a research laboratory.

Admission Requirements

Applicants should have a strong background in biology and/or chemistry. In addition to a basic biology course, it is strongly recommended that applicants have taken cellular or molecular biology and an introductory physiology course; a course on comparative anatomy also provides particularly useful background information. Inorganic and organic chemistry are basic requirements, while physical chemistry is recommended, but not required. Finally, as several areas of physiology require an understanding of the fundamentals of calculus and physics, introductory courses on these subjects are also essential.

The department requires the following materials for consideration for the M.S. or Ph.D. program: Three letters of recommendation, transcripts of all undergraduate and graduate grades, a completed departmental application form, and Graduate Record Examination scores (aptitude and one advanced test). A bachelor's degree or equivalent is required for admission; an M.S. degree is not a prerequisite for the Ph.D. program.

A complete application kit and detailed descriptions of the degree programs may be obtained by writing to the Graduate Adviser, Department of Physiology, West Virginia University School of Medicine, Morgantown, WV 26506. Although applications may be submitted as late as May of the year of matriculation, applications must be received before February 1 to be considered for financial aid.

Master of Science

Prerequisites for admission to the master's program are the same as those for the doctoral program. The first two semesters are devoted largely to course work in physiology (12 hours of Graduate Physiology, 4 hours of Neurophysiology, and 4 hours of Physiological Methods). Students are also introduced to the research interests of the faculty through the graduate

colloquium and rotations in each faculty member's laboratory. At the end of the second semester, students pick a thesis adviser and begin work in that laboratory during the summer. The second year is spent primarily on research for and writing of the master's thesis. Students are required to take 2 hours of Advanced Physiology and present two research seminars during the year.

Doctor of Philosophy

The first year curriculum familiarizes the student with the basic information and principles that form a background for advanced work in physiology. Much of this overlaps with the basic science material presented to medical students so that all students attend several medical school courses, including biochemistry and neurophysiology. Much of the first year is devoted to graduate physiology (6 hours/semester). This course is based upon lectures in medical physiology, supplemented with conference sessions that introduce students to current literature. Finally, students lacking a statistical background are expected to take a basic statistics course.

In addition to this course work, students are introduced to the research interests of the physiology faculty through the graduate colloquium and rotations in each faculty member's laboratory. The latter are designed to help students choose a thesis adviser by exposing them to the experimental approaches and techniques used in different laboratories within the department.

During the first summer, students are expected to begin research projects in a departmental research laboratory of their choice. This allows a student to explore an area of research interest, and to develop a working relationship with a faculty member, without a firm commitment to pursue a thesis project in that laboratory.

During the second year the student combines course work with the continuing development of research interests. A graduate adviser is selected during this year. Courses include: Advanced Physiology (12 hours), Physiological Methods (4 hours), Graduate Colloquium (2 hours), Graduate Seminar (1 hour), and a Teaching Practicum.

The second-year curriculum takes the student beyond the medical curriculum, emphasizing critical appraisal of the current research literature. In addition, the student begins to develop his/her teaching skills. The purposes of the graduate colloquium and seminar are twofold. First, they give students an opportunity to become informed of the latest scientific advances. Secondly students have an opportunity to develop and practice presentation of research seminars. In addition to presentations by faculty and students from the Department of Physiology, faculty members from other departments at WVU and from other institutions are invited to present seminars in the program.

After successful completion of the second academic year, the student takes a two-part qualifying examination. The qualifying examination consists of a comprehensive written examination covering all of the major areas of physiology, followed by a written and oral research design examination. Upon successful completion of the qualifying examination, the student is admitted to candidacy for the degree of Doctor of Philosophy.

During the third and fourth years the student may enroll in elective courses. Yearly participation in the teaching practicum provides additional experience in delivering lectures to undergraduate and professional students. However, the student's major effort is directed toward dissertation research.

Results of this effort are presented annually in the graduate colloquium. During these years the student will attend and present papers at national meetings of scientific societies (e.g., American Physiological Society, Biophysical Society, Endocrine Society, Federation of American Societies for Experimental Biology, Society for Neurosciences). The Ph.D. degree generally can be completed in four years.

Research and Instruction

Research Areas—Faculty laboratories offer opportunities for research in cardiovascular, cell, endocrine, gastrointestinal, muscle, neural, renal, and respiratory physiology.

Physiology (Physi.)

141. *Elementary Physiology*. (For undergraduate students in paramedical sciences.) II. 4 hr. PR: College biology and chemistry, or consent. Systematic presentation of basic concepts. 3 lec., 1 lab.
241. *Mechanisms of Body Function*. I. 4 hr. PR: College chemistry, biology, physics, and algebra or graduate status and approval. A systematic examination of the homeostatic functions of the human body with emphasis on the physicochemical mechanisms involved. Pathophysiology and clinical correlations are introduced in relation to normal physiology.
248. *Experimental Design*. (For advanced undergraduate and selected graduate students.) II. 3 hr. PR: Consent. Theory and practical experience in design of experiments and processing of physiological data using small laboratory digital computers. 1 lec., 2 lab.
341. *Physiological Methods 1*. II. 1-5 hr. PR: Consent. Research techniques and strategies for physiology.
342. *Physiological Methods 2*. I. 1-4 hr. PR: Consent. Research techniques and strategies for physiology.
343. *Fundamentals of Physiology*. (For dental students and a limited number of regular full-time graduate students in medical center basic sciences departments.) I. 5 hr. PR: College physics, algebra, chemistry, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems and their control. 3 lec., 1 conf., 1 lab.
344. *Medical Physiology 1*. (For medical and a limited number of regular full-time graduate students in medical center basic sciences departments.) I. 5 hr. PR: College physics, algebra, chemistry, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems, and their control, with clinical correlations. 5 lec., 1 conf.-lab.
345. *Medical Physiology 2*. (For medical and a limited number of regular full-time graduate students in medical center basic sciences departments.) II. 5 hr. PR: Physi. 344 and consent of department chairperson. Continuation of Physi. 344. 5 lec., 1 conf.-lab.
346. *Neurophysiology*. (For graduate students in medical center basic sciences departments and a limited number of regular full-time graduate students.) II. 1-4 hr. PR: Math. 3 or 141, Phys. 1 and 2 or consent of department chairperson. Properties of excitable tissues (nerve and muscle), synaptic transmission, reflexes and central nervous system function, and behavior. 1-3 lec., 1 conf.
350. *Graduate Physiology 1*. (For graduate students in the medical center basic sciences departments and a limited number of other regular full-time graduate students.) I. 6 hr. PR: Calculus, college physics, organic chemistry, biology, and consent of department chairperson. Analysis of basic facts and concepts relating to cellular processes, organ systems, and their control.

351. *Graduate Physiology 2.* (For graduate students in the medical center basic sciences departments and a limited number of other regular full-time graduate students.) II. 6 hr. PR: Physi. 344 or 350 and consent of department chairperson. Continuation of Physi. 350.
399. *Special Topics.* I, II, S. 1-4 hr. PR: Consent. Assigned study designed to develop research skills.
444. *Graduate Seminar.* I, II. 2 hr. PR: Graduate standing and consent. (*Graded as S or U.*)
490. *Teaching Practicum.* I, II. 1-3 hr. PR: Consent. Supervised practices in college teaching of physiology. (*Graded as S or U.*)
491. *Advanced Physiology.* I, II, S. 1-15 hr. PR: Consent. Lecture-conference in: cellular physiology, neurophysiology, circulation, respiration, acid-base and renal physiology, digestion and energy metabolism, and endocrinology. 3 lec., 3 conf.
497. *Research in Physiology.* I, II, S. 1-15 hr.
498. *Thesis.* I, II, S. 2-4 hr. PR: Consent. (*Graded as S or U.*)
499. *Graduate Colloquium.* I, II. 1 hr. PR: Consent. (*Graded as S or U.*)

School of Dentistry

The School of Dentistry was established by an act of the West Virginia Legislature on March 9, 1951, and the first class began studies in September, 1957. The 23 members of that class were graduated in 1961, receiving the first dental degrees awarded in West Virginia. More than 200 students are now enrolled in the accredited dental program. In September, 1961, the first students were enrolled in the school's degree program in dental hygiene and were graduated in 1965.

The profession of dentistry offers many career opportunities. In addition to the general practice of dentistry, specialty practice areas may be pursued by further study. The fields of dental education and research provide the opportunity for satisfying and interesting careers. Dental auxiliary careers such as dental hygiene may be pursued. Men and women entering the dental health care delivery system find that they play an important role in the exciting and challenging world of the modern health sciences.

The School of Dentistry of West Virginia University offers programs of education leading to the degrees of Doctor of Dental Surgery, Master of Science with majors in Endodontics and Orthodontics, and Bachelor of Science in Dental Hygiene. One oral surgery internship and three oral surgery residencies are offered by the Department of Oral Surgery. Programs leading to the Master of Science and Doctor of Philosophy degrees are available in the associated basic sciences. Seven general practice residencies are offered by the School of Dentistry, University Hospital, and the Charleston Area Medical Center. Continuing education courses for dentists and auxiliaries are offered throughout the year on a wide variety of dental topics.

Administration of the School of Dentistry is the responsibility of the Dean. He is aided in this function by four associate deans and the clinical and medical center basic sciences chairpersons. This administrative group, the Faculty Council, serves in an advisory capacity to the Dean in carrying out the established policies of the School of Dentistry and of the University.

Doctor of Dental Surgery Program (D.D.S.)

The School of Dentistry offers a program of education leading to the degree of Doctor of Dental Surgery (D.D.S.). The requirements for admission and the curriculum conform to the standards established by the American Dental Association Commission on Dental Accreditation.

Admission

Application for admission in the Fall of 1989 should be made promptly upon completion of the 1987-88 school year, even if the applicant has not completed all the requirements as listed.

The School of Dentistry participates in the American Association of Dental Schools Application Service (AADSAS). All applications are processed by that organization. Application request cards are available at the Office of Admissions and Records, 1170 Basic Sciences Building, WVU Medical Center, Morgantown, WV 26506. Request cards should be submitted to AADSAS as promptly as possible. The deadline for submission of a completed AADSAS application to the AADSAS office, for admission to the West Virginia University School of Dentistry in the Fall of 1989, is November 1, 1988. This deadline is deliberately and explicitly discussed in the AADSAS instruction

booklet and thus should be reviewed carefully by the applicant. Since deadline dates are so important, you are strongly urged to give this part of the application procedure your strict attention.

Because of the large number of applicants and limited openings available, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Nonresident applicants should have a grade-point average of 3.0 or above and an average score on the Academic and PMAT sections of the Dental Admission Test of at least 4-4. Economically or culturally disadvantaged students (especially if they are West Virginia residents) are encouraged to apply.

Each applicant is required to satisfactorily complete the Dental Admission Test. It is suggested that the test be taken in April, before making application in June, for admission in the fall. This test is given at testing centers throughout the United States and its possessions, and in Canada. Application cards may be secured by writing to: Division of Testing, Council on Dental Education, 211 E. Chicago Ave., Chicago, IL 60611.

Applicants for admission must present evidence of having successfully completed three or more academic years of work in liberal arts in an accredited college. The prerequisite courses should include:

	<i>Sem. Hr.</i>
English Composition and Rhetoric, or equivalent	6
Zoology or Biology (with laboratory)	8
Inorganic Chemistry (with laboratory)	8
Organic Chemistry (with laboratory)	8
Physics (with laboratory)	8

Courses in comparative anatomy, embryology, and biochemistry are strongly recommended. In addition, courses in the humanities and the social sciences are suggested in order to acquire a broadened intellectual background for both the study and practice of dentistry.

All applications are reviewed and those most qualified are invited to appear for a personal interview. The Committee on Admissions will advise the applicants of the time and place of the interview.

Admission to the WVU School of Dentistry is contingent upon satisfactory completion of all admission requirements as stated above, appropriate completion of all application instructions, submission of all transcripts from each college attended, personal interview, and satisfactory completion of all courses taken before the time of registration in dental school (includes courses taken during the summer session immediately preceding admission enrollment).

Final acceptance of a student is contingent upon satisfactory completion of all requirements.

Promotion

At the end of each grading period (i.e., each academic semester or session) all students will have their individual progress reviewed by the academic standards committee convened for their class. The progress of each student in the curriculum is governed by a set of minimum acceptable performance standards upon which the academic standards committee bases its decisions.

The standards consist of three categories: (1) scholastic performance; (2) clinic utilization; and (3) professional development. Scholastic performance requires that each student must earn a specified grade-point average to be

promoted to the succeeding year. Clinic utilization requires that each student must utilize a specified percentage of available clinic time to demonstrate steady progress toward attainment of clinical competency. Professional development is an important component of the study of dentistry. The criteria for determining this development are based on the student's personal behavior and patient management.

These performance standards are explained in detail in the "Curriculum and Academic Standards Statement for the WVU School of Dentistry." All first-year students are presented this statement prior to entering school and are required to acknowledge by their signature that they have read and accepted the conditions set by the material contained therein.

At the completion of each academic term, following the Committee on Academic Standards meetings, the status of each student is reported to the Dean and Faculty Council. The committee may recommend that a student be promoted unconditionally, be promoted on probation, be allowed to make up deficiencies, be given the opportunity to repeat the year, or be suspended or dismissed from further studies in the School of Dentistry. Final disposition in each case is the prerogative of the appropriate Committee on Academic Standards and the Dean.

Requirements for the Degree (D.D.S.)

Candidates for graduation are recommended by the faculty of the School of Dentistry to the Board of Regents for its approval and for the conferring of the degree of Doctor of Dental Surgery (D.D.S.), provided they fully meet the following conditions:

1. Shall have been in regular attendance in the School of Dentistry for the academic period prescribed for each student.
2. Shall have completed the prescribed curriculum for each of the academic sessions.
3. Shall have shown good moral character and shall have demonstrated a sense of professional responsibility in the performance of all assignments as a student.
4. Shall have met in full all financial obligations to the University.

In view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of the University the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession.

Attendance at the spring Commencement is voluntary. If you don't plan to attend, leave the complete mailing address to where you want your diploma mailed at the Dean's Office.

Curriculum

The School of Dentistry recognizes its obligation to produce professionals capable of meeting the dental health needs of society and providing leadership for the dental profession. Therefore, the school offers a four-year program leading to the degree of Doctor of Dental Surgery (D.D.S.) that provides students with a learning environment in which to develop the technical competence, intellectual capacity, and professional responsibility necessary to meet the dental health needs of a society in a state of constant transformation. In order to insure the achievement of these goals, the dental curriculum is continually reviewed and revised.

The basic required courses in the curriculum are presented throughout the first seven semesters and two eight-week summer sessions. During this time all students are enrolled in courses designed primarily to prepare them for the general practice of dentistry. Throughout the program overall student progress is continually monitored by the Committee on Academic Standards. Upon satisfactory completion of the first semester of the third year, the student is provided the opportunity to indicate a specific interest in a fourth-year curriculum track. Available tracks are the general practice track, basic biologic science track, and specific clinical interest track. Upon satisfactory completion of the second semester of the third year, the faculty adviser and the student prepare a specific individualized curriculum for the fourth year. This aspect of the dental curriculum provides the opportunity for the student to pursue areas of special interest through the appropriate track, while continuing to develop competency in all clinical disciplines. In addition to the required courses, fourth-year students are required to register for at least 3 hours of electives during each semester enrolled.

At the present time, a number of state boards of dentistry require evidence of participation in continuing education for license renewal. In addition, a significant number of state associations require similar evidence for continued membership in good standing. Consequently, fourth-year electives provide the opportunity for students to pursue areas of special interest and, at the same time, they serve as a means of encouraging students to continue their education throughout their professional careers.

The individualized curriculum developed by the student and faculty adviser must be approved by the Curriculum Committee Chairperson and the Associate Dean for Academic Affairs. The student will pursue the approved curriculum through completion of the D.D.S. program.

Additional requirements include participation in mock board examinations by fourth-year students and three weeks of remote-site training by all students. Furthermore, students must satisfactorily complete all courses that are attempted.

Students, having developed competency in all clinical disciplines, and having met all other requirements, are eligible for consideration for graduation at the end of term I of the fourth year.

Dental Clinic

Clinical training and experience constitute a major part of the curriculum for dental and dental hygiene students. Facilities for dental and dental hygiene students include 160 treatment cubicles and all necessary related laboratories. The students, treating their assigned patients under close supervision of faculty, are provided practical experience while rendering a much needed service to thousands of patients annually.

Books and Instruments

Dental students are required to obtain necessary textbooks for the scheduled courses and special instruments for use in the various laboratories and clinics. Lists of approved instruments and books will be provided at the time of registration, and these supplies will be made available through University services. Official authorization is essential in the purchase of all instruments and books used in dental courses. All dental students must maintain a library of required textbooks through graduation. Used books, instruments, and equipment are not acceptable.

Organizations

American Student Dental Association. Predoctoral and advanced education dental students are eligible to become members of the American Student Dental Association. Membership provides for student membership in the American Dental Association.

American Association of Dental Schools. All dental and auxiliary students, including advanced education students, are eligible to become student members of the American Association of Dental Schools during the period of enrollment in the School of Dentistry.

WVU School of Dentistry Alumni Association. In a series of meetings held during May, 1961, the first senior class of the School of Dentistry established the WVU School of Dentistry Alumni Association. The association promotes the educational program of the School of Dentistry. Full membership is extended to all graduates of the school, and associate memberships are available to others interested in the aims of the association.

Omicron Kappa Upsilon. On February 6, 1961, the Alpha Beta Chapter of the Omicron Kappa Upsilon, national honorary dental society, was chartered at the School of Dentistry. Student membership is limited to 12 percent of each senior class. Candidates are selected from the academically superior 20 percent.

Dental Fraternities. Chapters of three national dental fraternities were organized and established in 1962. First formal initiation ceremonies were conducted on February 9, 1962, by Beta Theta Chapter of Xi Psi Phi and Chi Chi Chapter of Delta Sigma Delta, and on February 10, 1962, by Sigma Chapter of Psi Omega. Membership in each fraternity is limited by an established class quota. Individual eligibility is based upon an accumulated 2.0 average.

SCHOOL OF DENTISTRY COURSE SCHEDULE

First Year—Didactic Courses	Credit Hours	1st Sem.	2nd Sem.	S.
300—Anesthesiology	1			x
303—Oral Diagnostic Techniques	2		x	
304—Operative Dentistry	4		x	
305—General Biochemistry	4		x	
306—Gross Anatomy of the Trunk and Extremities	4	x		
307—Gross Anatomy of Head & Neck & Neuroanatomy	5		x	
309—Microanatomy and Organology	4	x		
310—Dental Anatomy and Occlusion	6	x	x	
311—Periodontics	1			x
312—Dental Materials	3	x		
313—Removable Prosthodontics	3	x		
314—Fixed Prosthodontics	1			x
315—Periodontics	2		x	
316—Removable Prosthodontics	1			x
317—Removable Prosthodontics	1		x	
318—Oral Histology and Embryology	2		x	
319—Pediatric Dentistry	1		x	
320—Community Dentistry	1	x		
321—Endodontics	2			x
322—Operative Dentistry	2			x
323—Clinic Orientation	1			x

Second Year—Didactic Courses

302—Microbiology	5	x		
325—Practice Management	1		x	
327—Oral Radiology	1	x		
328—General Pathology	5		x	
329—Operative Dentistry	2	x		
330—Community Dentistry	1	x		
331—Dental Anatomy and Occlusion	2			x
332—Community Dentistry	1		x	
333—Physical Diagnosis	1		x	
334—Removable Prosthodontics	3	x	x	
335—Pediatric Dentistry	2	x	x	
336—Fixed Prosthodontics	6	x	x	
337—Oral Diagnosis	1		x	
338—Oral Pathology	3		x	x
339—Oral Surgery	1		x	
340—Periodontics	1	x		
341—Removable Prosthodontics	2			x
342—Periodontics	1	x		
343—Fundamentals of Physiology	5	x		
345—Principles of Orthodontics	1		x	
346—Orthodontic Technics	1			x
347—Management of Medical/Dental Emergencies	1			x
348—Operative Dentistry	1			x
349—Hospital Dentistry	1			x

Second Year—Clinical Courses

375—Dental Practice Management	1-3		x	x
376—Removable Prosthodontics	2-6		x	x
377—Periodontics	1-4		x	x
380—Endodontics	1-4		x	x
383—Operative Dentistry	2-8		x	x
384—Oral Surgery	1-3		x	x
386—Pediatric Dentistry	1-5		x	x
387—Clinical Oral Diagnosis	1-3		x	x
389—Fixed Prosthodontics	2-6		x	x
396—Clinical Oral Radiology	1-3		x	x

SCHOOL OF DENTISTRY COURSE SCHEDULE (Continued)

	Credit Hours	1st Sem.	2nd Sem.	S.
Third Year—Didactic Courses				
326 — Community Dentistry	2		x	
347 — Management of Medical/Dental Emergencies	1		x	
350 — Removable Prosthodontics	2	x	x	
352 — Community Dentistry	2	x	x	
353 — Oral Pathology	2	x		
355 — Clinico-Pathologic Correlation Conference	1		x	
357 — Fixed Prosthodontics	2	x	x	
359 — Oral Surgery	2	x	x	
360 — Pharmacology	4	x		
361 — Pediatric Dentistry	1	x		
362 — Endodontics	1	x		
363 — Periodontics	2	x	x	
364 — Pain and Anxiety Control	1	x		
365 — Orthodontics	1		x	
366 — Pediatric Dentistry	1		x	
371 — Practice Management	2	x		
372 — Practice Management	1		x	
373 — Practice Management	1		x	
374 — Principles of Medicine	2	x		
Third Year—Clinical Courses				
375 — Practice Management	1-3	x	x	x
376 — Removable Prosthodontics	2-6	x	x	x
377 — Periodontics	1-4	x	x	x
380 — Endodontics	1-4	x	x	x
383 — Operative Dentistry	2-8	x	x	x
384 — Oral Surgery	1-3	x	x	x
385 — Orthodontics	1-3	x	x	x
386 — Pediatric Dentistry	1-5	x	x	x
387 — Clinical Oral Diagnosis	1-3	x	x	x
388 — Pediatric Dentistry	1	x	x	x
389 — Fixed Prosthodontics	2-6	x	x	x
394 — Community Dentistry	1-12			x
395 — Hospital Dentistry Practicum	1-15			x
396 — Clinical Oral Radiology	1-3	x	x	x
Fourth Year—Didactic Courses				
351 — Dental Anatomy and Occlusion	1	x		
358 — Operative Dentistry	2	x		
370 — Community Dentistry	1	x		
Fourth Year—Clinical Courses				
375 — Practice Management	1-3	x	x	
376 — Removable Prosthodontics	2-6	x	x	
377 — Periodontics	1-4	x	x	
380 — Endodontics	1-4	x	x	
383 — Operative Dentistry	2-8	x	x	
385 — Orthodontics	1-3	x	x	
386 — Pediatric Dentistry	1-5	x	x	
387 — Clinical Oral Diagnosis	1-3	x	x	
388 — Pediatric Dentistry	1	x	x	
389 — Fixed Prosthodontics	2-6	x	x	
394 — Community Dentistry	1-12	x	x	
395 — Hospital Dentistry Practicum	1-15	x	x	
396 — Clinical Oral Radiology	1-3	x	x	
397 — Special Topics	1-15	x	x	

The relationship of the number of elective and/or required hours during the fourth year may vary with each student depending upon the individual student's progress.

Courses of Instruction in Dentistry (Dent.)

Each course is designated by the name of the department teaching it, its number and title, the semester in which it is offered, and hours of credit. Generally, those courses given in the first year are numbered 300-324; second year, 325-349; third year, 350-374; and fourth year, 375-399. Elective opportunities are offered to students during the fourth year of study. (See courses 394 and 397.) Other University courses may be taken with the approval of the student's adviser and the Associate Dean for Instruction.

Community Dentistry

Professor McCutcheon (*Chairperson*) and Thompson; Adjunct Associate Professor Murphy; Associate Professors Ingersoll, Meckstroth, and Wilson; Assistant Professor Dice; Clinical Instructors Broughton, Kuhn, Shelton, N. Taylor, and Wallace.

- 320. *Community Dentistry*. II. 1 hr. Fundamentals of statistical analysis and the scientific method necessary to the understanding of dental research.
- 330. *Community Dentistry*. I. 1 hr. Lectures provide the student with a basic knowledge of the principles of dental public health practice. Emphasis on dental epidemiology and preventive dentistry at the community level.
- 352. *Community Dentistry*. Yr. 2 hr. Seminars, proseminars, and field experience in selected topics of professional communication, health education, and the sociology and psychology of community health.
- 370. *Community Dentistry*. 1 hr. PR: Consent. Clinical, social, and community health considerations in the oral health care of geriatric patients.
- 394. *Community Dentistry*. I, II. 1-15 hr. Field experience in various aspects of community health.

Dental Practice Management

Professors Puderbaugh (*Chairperson*), Cady, and Walker; Associate Professor Hickman; Assistant Professor Estep.

- 325. *Practice Management*. II. 1 hr. A lecture course designed to prepare dental students in the concepts of four-handed dentistry.
- 371. *Practice Management*. I. 2 hr. PR: Dent. 325. A lecture series on the fundamentals of practice management, including the organization and development of the practice, personnel and financial management, and the introduction to TEAM dentistry.
- 372. *Practice Management*. II. 1 hr. (Ethics.) Lectures and discussion on the principles of ethics applied to dental practice.
- 373. *Practice Management*. II. 1 hr. (Jurisprudence.) Lectures on the fundamental legal rights, obligations, and responsibilities of the dentist.
- 375. *Practice Management*. Yr. and S. 1-3 hr. PR: Consent. Clinical practice using auxiliaries, including those trained in expanded functions.

Endodontics

Professor Emeritus Alberico; Professors Biddington, Griffin, and Skidmore (*Chairperson*); Associate Professor Jackson; Assistant Professor D. Taylor; Instructor M. Moreschi.

- 321. *Endodontics*. S. 2 hr. Preclinical lectures and laboratory exercises on basic technical and biological requisites in the treatment of diseases of the dental pulp and the periapical tissues.
- 362. *Endodontics*. I. 1 hr. Lectures on rationale, diagnosis, prevention, and nonsurgical and surgical treatment of diseases of the dental pulp and their sequelae.

380. *Endodontics*. Yr. and S. 1-4 hr. Clinical endodontic instruction in order to develop the skills and judgment necessary to treat diseases of the dental pulp and their sequelae.
390. *Clinical Endodontics*. I, II, S. 1-5 hr. (May be repeated for credit.) PR: Graduate of an accredited dental school and admission to the Advanced Education Program in Endodontics or consent. Clinical endodontic practice in the areas of: ordinary endodontic cases, complex endodontic cases, hemisection, root amputation, replantation, transplantation, endodontic implantation, vital pulp therapy, apexification, and bleaching.
391. *Endodontic Theory*. I, II, S. 2 hr. PR: Consent. Provides seminar discussions in the topics of: basic endodontic techniques, advanced endodontic techniques, endodontic literature review, case presentation, and advanced endodontic theory.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Hospital Dentistry

Professor Welch (Chairperson); Associate Professor Bakos; Assistant Professors Marshall and Oscanyan; Clinical Associate Professors Christian and Cogan; Clinical Assistant Professors Black, Gilbert, Haddox, Haley, Hancock, Jackfert, Kennedy, McCutcheon, Mott, Rosenfeld, Russell, Skaff, Sokolosky, Vargo, and Wilkerson; Clinical Instructors Brace, Capriolo, Coffman, Courtney, Fagan, Farris, Kuyk, Lee, Payne, and Wilbourn.

333. *Physical Diagnosis*. II. 1 hr. Lectures and demonstrations procedures involved in performing a physical examination and in understanding the hospital medical chart from the standpoint of history, physical examination, laboratory, and x-ray examination data.
347. *Management of Medical/Dental Emergencies*. II. 1 hr. Assessment and treatment of the medical risk patient as related to the practice of dentistry. CPR instruction included.
349. *Hospital Dentistry*. S. 1 hr. Hospital protocol and hospital dentistry as related to various dental disciplines. Students will be assigned a one-week hospital rotation where they are involved in care of the hospitalized dental patient.
374. *Principles of Medicine*. I. 2 hr. General diseases about which the dental student should have intelligent working knowledge. Students are assigned to specific hospitalized patients to review their findings with the class.
395. *Hospital Dentistry Practicum*. I, II, S. 1-15 hr. Hospital experience (remote site) in the various aspects of care of the hospitalized dental patient. Provides continuation of experiences gained in Dent. 349.

Operative Dentistry

Professor Sausen (Chairperson); Associate Professors Bridgeman, Chapman, Foor, Frye, Gladwin, Hart, Kelly, Naylor, Rodeffer, F. Stevens, J. Stevens, and VandenBosche; Assistant Professor Bennett.

304. *Operative Dentistry*. II. 4 hr. Preclinical course in principles of cavity preparation, manipulation of plastic restorative materials, and related instrumentation. Characteristics and treatment of caries emphasized.
322. *Operative Dentistry*. S. 2 hr. Preclinical course to include a variety of cavity forms and their restoration with compacted golds. Certain fundamentals of pedodontics introduced.
329. *Operative Dentistry*. I. 2 hr. Lectures relate to standard clinical procedures and to laboratory instruction in direct and indirect cast gold restorations.

348. *Operative Dentistry*. S. 1 hr. Cavity medications, biological reactions to restorative materials and techniques, bur technology, and clinical variations of cavity form and treatment. Treatment planning procedure is reviewed and examined.
358. *Operative Dentistry*. II. 1 hr. More complex and advanced techniques for clinical practice with emphasis on new developments throughout the scope of operative dentistry.
383. *Operative Dentistry*. Yr. and S. 2-8 hr. Instruction in the clinic setting includes comprehensive diagnosis and treatment planning, computer assisted records, plaque control, caries control, and single tooth restorations. Sufficient variety and depth of experience occurs to obtain competence for independent practice of operative dentistry.

Program in Dental Materials

Professor Overberger; Associate Professors Hart and VandenBosche.

312. *Dental Materials*. I. 3 hr. Composition, physical, chemical, mechanical, and manipulative properties, and technical uses of dental restorative materials as related to dentistry.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Oral Diagnosis and Radiology

Professors Graham (*Chairperson*), Bowers, Pifer, and H. Smith; Associate Professor Fotos; Instructor Price.

303. *Oral Diagnostic Techniques*. II. 2 hr. Lectures and laboratory exercises introduce and stress fundamental principles of oral diagnosis including patient health history and clinical examination methods. Intraoral radiography. General approach to treatment planning for comprehensive health care.
323. *Clinic Orientation*. S. 1 hr. Series of specially arranged lectures, demonstrations, and clinical exercises to orient student to clinical procedures in the clinical disciplines.
327. *Oral Radiology*. I. 1 hr. The physical and biological phenomena associated with x-radiation. Intraoral and extraoral techniques presented and instruction in interpretation of roentgenograms, with special emphasis relative to oral diagnosis.
337. *Oral Diagnosis*. II. 1 hr. Didactic instruction with further application of diagnosis procedures presented in Dent. 303, extended to include special examination procedures and technics applicable to evaluating clinical problems.
387. *Clinical Oral Diagnosis*. Yr. and S. 1-3 hr. PR: Consent. Clinical application of principles presented in Dent. 303 and 337, providing opportunities for observation and analysis of clinical problems.
396. *Clinical Oral Radiology*. Yr. and S. 1-3 hr. Clinical application of principles presented in Dent. 303 and 327 with additional instruction in techniques and interpretation of radiographs with special emphasis to role played in oral diagnosis.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Oral Pathology

Professors Bouquot (*Chairperson*) and Keyes.

328. *General Pathology*. (For dental and graduate students). II. 5 hr. PR: Consent. The broad spectrum of human diseases is studied at the clinical, physiological, and biochemical levels.

338. *Oral Pathology*. (For dental students.) II. and S. 3 hr. PR: Consent; Path. 328. Application of knowledge gained in general pathology to study specific diseases affecting the oral cavity.
353. *Oral Pathology*. (For dental students.) I. 2 hr. PR: Consent; Dent. 338. Continuation of Dent. 338.
355. *Clinico-Pathologic Correlation Conference*. (For dental students.) II. 1 hr. PR: Consent; Dent. 338, 353. Interesting oral lesions are demonstrated clinically, radiographically, and histologically. Diagnosis is established and treatment discussed by faculty and students.
382. *Advanced Oral Histopathology*. (For dental and graduate students, residents, and interns.) I and II. 1 hr. PR: Consent; Dent. 338, 353. An elective seminar stressing the significant microscopic features and diagnosis of various oral lesions.
397. *Special Topics. (Fourth Year.)* I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.
401. *Special Studies in Oral Pathology*. (For dental and graduate students, residents, and interns.) I. 1-3 hr. PR: Consent. Advanced study of local or systemic disease processes affecting oral structures through seminars, assignment of specific topics, or research activities.

Oral and Maxillofacial Surgery

Professor Emeritus Campbell; Professor Graves (*Chairperson*); Assistant Professor Christian; Clinical Professors Davidson and Poindexter; Clinical Associate Professors Fogarty and Oliverio; Clinical Assistant Professors Doran, Douglas, Farrar, John, King, Linkous, Salzer, Syner, and Wine; Clinical Instructor Lindsay.

300. *Anesthesiology*. II and S. 1 hr. Lectures on local anesthesia, including types, modes of action, indications, and contraindications for use. Premedication, toxic effects, and technics of administration are discussed.
339. *Oral Surgery*. II. 1 hr. Didactic instruction in basic surgical principles as applied to the extraction of teeth and dentoalveolar surgery.
359. *Oral Surgery*. I and II. 2 hr. PR: Consent. Didactic instruction in patient evaluation, complicated exodontia, preprosthetic surgery, diagnosis, surgical and adjunctive treatment of disease, injuries, and defects of human jaws and associated structures.
364. *Pain and Anxiety Control*. I. 1 hr. PR: Consent. Instruction in the psychology, physiology, and clinical techniques of controlling pain and anxiety in the dental patient.
384. *Oral Surgery*. Yr. and S. 1-3 hr. PR: Consent. Clinical instruction in outpatient and inpatient oral surgery necessary to provide comprehensive care for the dental patient.
397. *Special Topics. (Fourth Year.)* I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.
400. *Advanced Oral Surgery*. I, II, S. 1-12 hr. PR: Consent. Advanced study of therapeutics, hospital protocol, and surgical aspects of oral surgery involving lectures, seminars, demonstrations, and clinical applications.

Orthodontics

Professor Legan (*Chairperson*); Assistant Professor Kitchin; Clinical Associate Professors Valentine and Wilfong.

345. *Principles of Orthodontics*. II. 1 hr. Facial growth and development, the development of dental occlusion, and etiology and classification of malocclusions.

346. *Orthodontic Technics*. S. 1 hr. Technical instruction in taking diagnostic records and constructing basic orthodontic appliances.
365. *Orthodontics*. II. 1 hr. Introduction to clinical orthodontics; lectures on case analysis, treatment planning, and clinical procedures involved in interceptive, preventive, and adjunctive treatment of malocclusions.
385. *Orthodontics*. Yr. and S. 1-3 hr. Clinical management of selected malocclusion problems.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Pediatric Dentistry

Professor Fenton; Assistant Professors Gwynn and Holmes; Instructors Brannon and Koster.

319. *Pediatric Dentistry*. II. 1 hr. PR: Consent. Normal growth and development presented from physical, intellectual, psychological, and oral perspectives. Behavior of children in dental environment reviewed and strategies for management examined.
335. *Pediatric Dentistry*. I and II. 2 hr. PR: Consent. Didactic instruction foundational to the dental care to children presented in the following modules of instruction: oral diagnosis/treatment planning/case presentation, prevention, restorative dentistry, pulpal therapy, management of the developing occlusion and trauma to the dentition and oral structures.
361. *Pediatric Dentistry*. I. 1 hr. PR: Consent. Continued didactic instruction in dentistry for the child patient with the following learning packages programmed: abnormal dental development, oral habits, and adolescent dentistry.
366. *Developmentally/Medically Compromised Child*. I, II. 2 hr. PR: Consent. Didactic instruction in dentistry for the developmentally disabled and/or medically compromised child.
386. *Pediatric Dentistry*. I, II, S. 1-5 hr. PR: Consent. Instruction in the clinical setting with the goal of developing the psychomotor skills and judgment necessary to provide comprehensive care for the child patient.
388. *Pediatric Dentistry*. I, II, S. 1 hr. PR: Consent. Clinic experience in providing comprehensive dental care for the developmentally disabled and medically compromised child.
397. *Special Topics* (Fourth Year). I and II. 1-3 hr. PR: Consent. Provides didactic and clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Periodontics

Professors Morrison (Chairperson) and Crout; Associate Professors Hart, Hornbrook, Rodeffer, and Jagannathan; Clinical Associate Professor Wanker; Clinical Assistant Professors Reed and Milem; Adjunct Associate Professor Murphy.

311. *Periodontics*. S. 1 hr. Introduction to periodontal diseases, their diagnosis and treatment. Laboratory instruction is included.
315. *Periodontics*. II. 2 hr. Study of professional communication and introduction to the theory and practice of preventive dentistry.
332. *Periodontics*. II. 1 hr. Lectures in the advanced theory and practice of preventive dentistry with emphasis on nutrition.
340. *Periodontics*. I. 1 hr. Intermediate didactic instruction in periodontal therapy including basic surgery and post-operative care.

342. *Periodontics*. I. 1 hr. PR: Consent. Clinical introduction to the practice of preventive dentistry.
363. *Periodontics*. Yr. 2 hr. Advanced didactic instruction in periodontal therapy including special surgical procedures.
377. *Periodontics*. Yr. and S. 1-4 hr. Clinical experience in the diagnosis and treatment of periodontal diseases.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Fixed Prosthodontics

Professor Emeritus Adams; Professors Bianco (*Chairperson*), Connor, Kwiatkowski, and Tucker; Associate Professor N. Smith.

314. *Fixed Prosthodontics*. S. 1 hr. Preclinical lectures and laboratory exercises in which first-year students are introduced to the technics of preparing and restoring teeth with crown restorations.
336. *Fixed Prosthodontics*. Yr. 6 hr. PR: Consent. Lectures and laboratory exercises involving principles and technics of crown and bridge prosthodontics. Topics include types of dental bridges, their indications, and contraindications.
357. *Fixed Prosthodontics*. Yr. 2 hr. PR: Consent. Lectures concerned with clinical practice; diagnosis, treatment planning, treatment procedures, ceramics, esthetics, and occlusion.
389. *Fixed Prosthodontics*. Yr. and S. 1-6 hr. PR: Consent. Clinical application of the theory and practice of crown and bridge dentistry.

Program in Dental Anatomy and Occlusion

Associate Professors Crout, Foor, Rodeffer, N. Smith, and VandenBosche; Assistant Professor Stewart; Instructor Estep; Clinical Assistant Professor W. Taylor.

310. *Dental Anatomy and Occlusion*. Yr. 6 hr. Anatomy of individual teeth, both permanent and primary, in regard to form and function and their static and dynamic occlusal relationships.
331. *Occlusion*. S. 2 hr. PR: Consent. Didactic and clinic/laboratory instruction in the basic techniques and procedures associated with the treatment of conditions related to faulty occlusion.
351. *Occlusion*. II. 1 hr. PR: Consent. Advanced study of the science of occlusion with particular attention to its impact on the clinical diagnosis and treatment of occlusal disorders.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Maxillofacial Prosthodontics

Professors Bianco (*Chairperson*) and Kluth.

397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Removable Prosthodontics

Professor Bianco (*Chairperson*); Associate Professors Harper and Roth; Assistant Professors Beaumont, Camele, and Stewart; Instructor Price.

313. *Removable Prosthodontics*. I. 3 hr. Lectures and laboratory practice in biomechanical requirements of the edentulous patient.

316. *Removable Prosthodontics*. S. 1 hr. Lectures and laboratory practice in maxillo-mandibular relationships, mandibular and occlusion.
317. *Removable Prosthodontics*. II. 1 hr. PR: Consent. A lecture course providing an introduction to removable partial denture prosthetics.
334. *Removable Prosthodontics*. Yr. 3 hr. Didactic and laboratory practice for treatment of the partially edentulous patients, and introduction to clinical complete denture prosthodontics.
341. *Removable Prosthodontics*. S. 2 hr. Clinical demonstrations correlating the didactic and laboratory practices with the actual treatment of a removable prosthodontic patient.
350. *Removable Prosthodontics*. Yr. 2 hr. Lectures concerned with clinical practice of complete and partial removable prostheses.
376. *Removable Prosthodontics*. Yr. and S. 2-6 hr. Continued application of the theory and practice of removable prosthodontics.
397. *Special Topics*. (Fourth Year.) I and II. 1-3 hr. PR: Consent. Provides didactic, laboratory and/or clinical opportunities for students to pursue additional knowledge and/or skills in dental topics of special interest. As arranged.

Advanced Education Programs

The School of Dentistry offers advanced education programs. The Department of Endodontics and the Department of Orthodontics offer programs of advanced study leading to the degrees of Master of Science (M.S.). Programs leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees are available in the basic sciences of Anatomy, Microbiology, Biochemistry, Pharmacology and Toxicology, and Physiology. The Department of Oral and Maxillofacial Surgery offers one four-year residency. Seven general practice residencies also are offered by the School of Dentistry. Continuing education courses are offered throughout the year. Detailed information concerning admission requirements, courses of study, etc., in these programs may be obtained from the Office of the Associate Dean for Postdoctoral Programs, WVU School of Dentistry, Morgantown, WV 26506.

Endodontic Program

Master of Science (M.S.)

The School of Dentistry and its Department of Endodontics offer a program of advanced study and clinical training leading to the degree of Master of Science (M.S.). The program requires a minimum of 24 months (two academic years and two summer sessions) of full-time residency in the School of Dentistry. It is designed to qualify dentists for careers in endodontic clinical practice, teaching, and research.

Inquiries concerning this program should be directed to the Office of the Associate Dean for Postdoctoral Programs. Applicants will be processed in the School of Dentistry. Applicants approved for admission to the program will be notified soon after January 15.

Requirements for Admission to the Endodontic Program

1. Graduation from an accredited school of dentistry.
2. Evidence of scholastic and clinical achievement that would indicate the applicant's ability to progress in a program of this nature.

3. Each applicant must file with the Department of Endodontics all information requested in the departmental application form.

Requirements for Degree of Master of Science

1. Fulfillment of general WVU graduate study requirements.
2. Twenty-four months (two academic years and two summer sessions) of consecutive residency at the WVU School of Dentistry.
3. An approved master's thesis based on original research completed during the period of residency in an area related to endodontics.
4. Must satisfactorily pass a final oral examination.
5. Must complete a minimum of 57 credit hours. These include 32 hours of endodontic courses, a minimum of 18 hours of selected basic sciences subjects, and a thesis (7 hours).
6. Must have demonstrated satisfactory clinical competency in the student's field.
7. Must have maintained a grade level commensurate with graduate education.

Dentistry (Dent.)

400. *Advanced Oral Surgery*. I, II, S. 1-12 hr. PR: Consent. Advanced study of therapeutics, hospital protocol, and surgical aspects of oral surgery involving lectures, seminars, demonstrations, and clinical applications.

Endodontics (Dent.)

390. *Clinical Endodontics*. I, II, S. 1-5 hr. PR: Graduate of an accredited dental school and admission to the Advanced Education Program in Endodontics or consent. (May be repeated for credit.) Clinical endodontic practice in the areas of: ordinary endodontic cases, complex endodontic cases, hemisection, root amputation, replantation, transplantation, endodontic implantation, vital pulp therapy, apexification, and bleaching.
391. *Endodontic Theory*. I, II, S. 2 hr. PR: Consent. Provides seminar discussions in the topics of: basic endodontic techniques, advanced endodontic techniques, endodontic literature review, case presentation, and advanced endodontic theory.
490. *Endodontic Teaching*. S. 2 hr. PR: Consent. Selected teaching experiences including lecture, clinical, and laboratory teaching of undergraduate endodontic courses.
497. *Endodontic Research*. I, II, S. 2-3 hr. PR: Consent. Students will prepare a research protocol, conduct experimental research, and prepare a thesis of original endodontic research.

Microbiology (M. Bio.)

317. *Special Problems in Microbiology*. I, II, S. 1-7 hr. per sem. with a total of 24 hr. available. Pathogenic microorganisms, including immunology and antimicrobial agents.

Pathology (Path.)

382. *Oral Histopathology*. (For graduate and dental students.) I, II. 1-2 hr. PR: Consent. Advanced study of the microscopic aspects of oral and paraoral disease through weekly seminars with emphasis placed on diagnosis.
401. *Special Studies in Oral Pathology*. I, II. 1-3 hr. PR: Consent. Advanced seminar or independent study of local and/or systemic disease processes affecting oral and facial structures.

Pharmacology and Toxicology (Pcol.)

360. *Pharmacology*. I. 4 hr. PR: Consent. Lecture and laboratory on pharmacologic actions and therapeutic uses of drugs.

Statistics (Stat.)

311. *Statistical Methods* 1. I, II. 3 hr. PR: Math. 3. Statistical models, distributions, probability, random variables, tests of hypotheses, confidence intervals, regression, correlation, transformations, F and Chi-square distributions, analysis of variance and multiple comparisons. (*Equiv. to Ed. P. 311 and Psych. 311.*)

Orthodontic Program

Master of Science (M.S.)

The School of Dentistry and its Department of Orthodontics offer a program of advanced study and clinical training leading to the degree of Master of Science (M.S.). The program requires a minimum of 24 months (two academic years and two summers) of full-time residency in the School of Dentistry. It is designed to qualify dentists for careers in orthodontic clinical practice, teaching, and research.

Inquiries concerning this program should be directed to the Office of the Associate Dean for Postdoctoral Programs. Those applicants approved for admission to the program will be notified soon after January 15.

Requirements for Admission to the Orthodontic Program

1. Graduation from an accredited dental school.
2. Evidence of scholastic and clinical achievement that would indicate the applicant's ability to progress in a program of this nature. Generally, a minimum grade-point average of 2.75 is required for admission.
3. Each applicant must file with the department all information requested in the department application form.

Requirements for Degree of Master of Science

1. Fulfillment of general WVU graduate study requirements.
2. Twenty-four months (two academic years and two summers) of consecutive residency at the School of Dentistry.
3. An approved master's thesis based on original research completed during the period of residency in an area related to orthodontics.
4. Must satisfactorily pass a final oral examination.
5. Must complete a minimum of 50 credit hours. These include 35 hours of orthodontic courses, a minimum of 9 hours of selected basic sciences subjects, a minimum of 6 hours of elective allied subjects, and a thesis (6 hours).
6. Must have demonstrated satisfactory clinical competence in the student's field.
7. Must have maintained a grade level commensurate with graduate education.

Anatomy (Anat.)

315. *Advanced Applied Anatomy*. I. 3 hr. PR: Consent. Advanced descriptive and functional anatomy of the head and neck, especially as it relates to orthodontics. The course stresses the oral-facial region, the skullbase, and the architecture of the skull in relation to masticatory forces.

316. *Craniofacial Growth and Maturation*. II. 3 hr. PR: Anat. 315 or consent. The current concepts of craniofacial growth and maturation are presented and integrated for application to clinical problems.

Orthodontics (Dent.)

416. *Biomechanics*. I, II, S. 2 hr. PR: Consent. Design and function of the teeth and their surrounding structures, and response of these tissues to orthodontic procedures.
417. *Orthodontic Technique*. I, II, S. 2 hr. PR: Consent. Laboratory course in techniques related to fabrication and manipulation of orthodontic appliances.
418. *Orthodontic Materials*. I, II, S. 1 hr. PR: Consent. Physical properties of materials used in orthodontic appliances.
419. *Orthodontic Diagnosis*. I, II, S. 1-3 hr. PR: Consent. Seminar-type class on technique of patient examination, acquiring diagnostic records, and analyzing and correlating this information to the treatment of clinical problems.
420. *Cephalometrics*. S. 1-3 hr. PR: Consent. Use of radiographic cephalometry in studying growth of the human face, analysis of dentofacial malformations, and evaluation of orthodontic treatment.
421. *Orthodontic Mechanics*. I, II, S. 1-4 hr. PR: Dent. 416, 417. Seminar and laboratory course on basic orthodontic mechanical properties.
422. *Advanced Orthodontic Mechanics*. I, II, S. 1 hr. PR: Dent. 421. Continuation of Dent. 421 involving more difficult type cases and introducing more sophisticated appliance therapy.
423. *Growth and Development*. II. 1-5 hr. PR: Consent. Seminar-type course on normal and abnormal growth of the human head and its application to orthodontics.
425. *Orthodontic Seminar*. I, II, S. 1-8 hr. PR: Consent. Discussions involving all branches of dental science, with special emphasis on the orthodontic interest. Assigned topics and articles in the literature discussed.
426. *Orthodontic Clinic*. I, II, S. 1-12 hr. PR: Dent. 416, 417. Clinical treatment of selected patients.
497. *Research*. I, II, S. 1-15 hr.

Pathology (Path.)

397. *Pediatric Oral Pathology*. I. 2 hr. PR: Consent. Lecture and seminar course on inherited diseases and other pathologic situations of oral cavity and face specific for pediatric age group.

Statistics (Stat.)

311. *Statistical Methods 1*. I, II. 3 hr. PR: Math. 3. Statistical models, distributions, probability, random variables, tests of hypotheses, confidence intervals, regression, correlation, transformations, F and Chi-square distributions, analysis of variance and multiple comparisons. (Equiv. to Ed. P. 311 and Psych. 311.)

Dental Hygiene Program

The Dental Hygiene Program is a department of the School of Dentistry. The four-year dental hygiene curriculum combines the advantages of both a liberal arts and a professional education. This curriculum format has departed from the conventional, but there is a definite conviction that the inclusion of many disciplines provides greater strength to the program. The educational objectives of the Dental Hygiene Program are:

To prepare individuals to perform to the level of competency specified by the faculty, the state boards of dental examiners, and employers of those oral

health services legally approved for a dental hygienist in any state, district, or territory of the United States. Presently, these services include: observation, recording, prevention, treatment, education, and communication.

To prepare individuals capable of performing the clinical skills delegated to any dental auxiliary (excluding the dental laboratory technician).

To prepare dental hygienists to teach clinical skills and to present didactic information in dental auxiliary education programs.

To prepare individuals capable of performing coordinative and administrative functions in public health and community related areas.

To prepare individuals for the dental hygiene profession who have a keen sense of social awareness and professional responsibility.

To prepare dental hygienists to continue their professional development past graduation through formal training, self-study, and independent thought.

To prepare individuals who have the capability to understand and adapt to new developments and changes in the scientific, sociologic, and practical factors pertaining to health.

To provide the educational foundation for higher education.

Upon completion of all requirements and with the recommendation of the School of Dentistry, the candidate is awarded the degree of Bachelor of Science in Dental Hygiene (B.S.)

The Dental Hygiene curriculum is structured in accordance with the standards specified for a Dental Hygiene Program by the Commission on Accreditation of the American Dental Association. The program has been fully accredited by this organization since 1965.

Admission—Integrated Program

Students enter dental hygiene as freshmen, and the general admission policies of West Virginia University are followed. The applicant must be a graduate of an accredited high school or preparatory school and have completed 1 unit of plane geometry, biology, and chemistry, 2 units of algebra, and 4 units of English. Good grades are expected, and applicants should rank in the upper one-third of their graduating class. Particular attention is given to academic achievement in science courses.

All students are required to take either the American College Testing Program (ACT) tests or the Scholastic Aptitude Test (SAT) and have the report of scores sent to WVU prior to the admission decision. Students admitted on the basis of SAT scores must submit results of the ACT by the end of the first semester of their freshman year.

In addition to a special application form for dental hygiene, each candidate for admission is supplied with three standardized reference forms. Each applicant is requested to have one dental hygienist and two other individuals return the forms directly to the Department of Dental Hygiene.

The personal qualifications, scholastic record, test scores, and recommendation of each applicant are reviewed by the Dental Hygiene Admissions Committee. After reviewing these credentials, the committee will request an interview with those applicants who are most qualified. The applicant will be notified by letter of the date, time, and place of the interview.

The competition for entrance into dental hygiene is extremely keen. Nonresidents should recognize that preference is given to West Virginia residents. Only those nonresidents with the highest qualifications will be considered.

For application materials the applicant should write to the Department of Dental Hygiene, West Virginia University, Morgantown, WV 26506; or the Office of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. Applicants should apply and complete aptitude tests as early as possible in the year preceding the year admission is desired. Applications are available in September.

Promotion

At the end of each semester, the status of each dental hygiene student is reviewed by the Dental Hygiene Committee on Academic Standards. This committee then makes recommendations to the Dean. Final disposition in each case is the prerogative of the Dean and the Chairperson of Dental Hygiene.

Unconditional promotion normally depends upon fulfillment of all course requirements and the attainment of both a minimum cumulative grade-point average and a minimum science-dental hygiene grade-point average. These minimum grade-point averages are: a 1.50 for promotion to the second year; a 1.75 for promotion to the third year; a 2.0 for promotion to the fourth year; and a 2.0 for graduation.

The courses (or equivalents) utilized to calculate the science-dental hygiene grade-point average are: Anatomy 101; Biology 2; Chemistry 11, 12; Dentistry 300; Microbiology 26; Pathology 128, 129; Pharmacology and Toxicology 160; Physiology 141; and *all* courses in Dental Hygiene (Dnt. Hy. 1-220).

Students who do not qualify to be promoted unconditionally may be placed on probation or may be suspended from further studies in the Department of Dental Hygiene. Probationary status implies that the student will be allowed to make up deficiencies or be given an opportunity to repeat a year.

If a student is promoted on probation, the student must reach the required minimum standards specified above. Students on probation who do not obtain these standards will be reevaluated by the committee.

The Department of Dental Hygiene reserves the right to suspend or require remedial work of any student who does not perform at a level satisfactory for patient care.

Admission—Degree Completion Program

Registered Dental Hygienist applicants are admitted directly to the Department of Dental Hygiene on both a full-time and part-time basis. To be eligible for enrollment the applicant must be a graduate of an accredited certificate or associate degree program in dental hygiene. Lower-division credit is established by the transfer of hours (see "Curriculum Plan"). Acceptance and placement in the program are dependent upon the individual's academic record and upon the number of spaces available in the program.

Application forms may be obtained by mail or in person from the Office of Admissions and Records, West Virginia University Medical Center, P.O. Box 6301, Morgantown, WV 26506-6301. An application fee of \$10.00, payable to West Virginia University, must accompany the completed application.

Credentials for admission must include complete records of all previous college or university work. The student must request the registrar of each school he/she has attended to forward one official transcript directly to the

Office of Admissions and Records, WVU Medical Center. In addition, catalog descriptions of each course taken must accompany the application. If the applicant is still in school, these should include the program of studies in which the applicant is currently registered. The University does not undertake the responsibility of collecting these credentials.

Students are admitted to the Degree Completion Program twice a year. Applications should be filed by July 1 for admission for the fall semester and by November 1 for admission for the spring semester. Students currently enrolled in the last year of a dental hygiene program are urged to apply for admission.

Admission Requirements

1. Completion of an accredited certificate/associate degree program in dental hygiene.
2. A minimum overall grade-point average of 2.5 on all college work attempted. Applicants whose grade-point average falls below 2.5 may petition in writing to the Dental Hygiene Admissions Committee for special consideration.
3. Successful completion of the Dental Hygiene National Board Examination. The score achieved on the examination must be submitted.
4. Two or more letters of reference. One letter from the Director and one from the clinical supervisor of the dental hygiene program attended are required. If applicable, a letter from at least one employer is recommended.
5. A personal interview with the Admissions Committee may be required before a final decision is rendered on a candidate.

Professional Organizations

The American Dental Hygienists' Association is the official organization representing the dental hygiene profession. Student dental hygienists have the opportunity of student membership in the association.

Sigma Phi Alpha is the national dental hygiene honorary society. Student membership is limited to 10 percent of each graduating class. Candidates are selected on the basis of scholarship, character, and potential as a dental hygienist.

American Association of Dental Schools. This association of dental educational institutions and faculties has as its primary purpose to promote and improve dental education. Dental hygiene students may join as student members.

West Virginia University School of Dentistry Alumni Association. Graduates of the Department of Dental Hygiene may join and participate in all activities of the Alumni Association.

Courses of Instruction in Dental Hygiene

Professor Komives (*Chairperson*); Associate Professors DeBiase, Graves, Krouse, and Sherrill; Assistant Professor Pfeifer; Instructor Mueller; Clinical Instructor Mullins; School of Dentistry faculty.

(Courses included in the Dental Hygiene curriculum, but not listed here, will be found either under other department listings in this *Catalog* or the *WVU Undergraduate Catalog*.)

DENTAL HYGIENE CURRICULUM PLAN

First Year				Second Year			
First Sem.	Hr.	Second Sem.	Hr.	First Sem.	Hr.	Second Sem.	Hr.
Engl. 1	3	Chem. 12	4	Anat. 101	4	Physi. 141	4
Cluster A		HN&F 71	3	Dnt. Hy. 105	2	Dnt. Hy. 90	3
(Elective)	3	Dnt. Hy. 85	3	M. Biol. 26	4	Pcol. 160	3
Biol. 2	3	Cluster A		Cluster B		Dnt. Hy. 120	1
Biol. 4	1	(Elective)	3	(Psych. 1)	3	Dnt. Hy. 125	4
Chem. 11	4	Cluster B		Cluster A		Engl. 2	3
Dnt. Hy. 1	2	(Soc.&A. 1)	3	(Elective)	3		
Dnt. Hy. 66	1						
Orien. 1	1						
	18		16		16		18

Third Year				Fourth Year			
First Sem.	Hr.	Second Sem.	Hr.	First Sem.	Hr.	Second Sem.	Hr.
Dnt. Hy. 168	1	Dnt. Hy. 169	1	Dnt. Hy. 202	2	Dnt. Hy. 206	3-4
Cluster B	3	Dnt. Hy. 174	2	Dnt. Hy. 204	1		
(Psych. 141 or 164)		Cluster A		Dnt. Hy. 205	5		
Path. 128	2	(Comm. 11/14)	3	Cluster B	3		
Dnt. Hy. 152	2	Dnt. Hy. 150	3	(Upper Div.			
Anes. 300	1	Dnt. Hy. 161	2	Soc.&A. or Econ. 51)			
Dnt. Hy. 172	2	Dnt. Hy. 164	2	Dnt. Hy. Electives for the year			13-14
Dnt. Hy. 160	3	Path. 129	3				
Dnt. Hy. 162	2						
Dnt. Hy. 163	2						
	18		16				

The student must remain full-time during each of the eight semesters.

Dental Hygiene (Dnt. Hy.)

1. *Orientation to Dental Hygiene*. I. 2 hr. PR: Enrollment in dental hygiene. Historical development of dental hygiene with emphasis on the philosophy, responsibilities, and current role of the dental hygienist as a member of the dental health team.
66. *Technical Expression and Dental Literature*. I. 1 hr. PR: Enrollment in dental hygiene. Preparation and uses of professional communication.
85. *Oral Anatomy*. II. 3 hr. PR: Enrollment in dental hygiene. Human teeth and the anatomy of the head and neck with emphasis on structures in or related to the oral cavity.
90. *Oral Histology*. II. 3 hr. PR: Enrollment in dental hygiene. Histological structures of the teeth and tissues of the oral cavity and the morphological development of these structures.
105. *The Theory and Practice of Prevention*. I. 2 hr. PR: Enrollment in dental hygiene. Philosophy and techniques of preventive dentistry.
120. *Dental Nursing Technics*. II. 1 hr. PR: Enrollment in dental hygiene. Emergency first aid and principles of nursing applicable to the dental office.
125. *Dental Hygiene Technics*. II. 4 hr. PR: Enrollment in dental hygiene. Fundamental principles and technics of dental hygiene are presented through lectures, laboratory, and clinical participation.
150. *Dental Health Education*. II. 3 hr. PR: Enrollment in dental hygiene. Lectures, demonstrations, and field experiences on the methods, materials, and resources used in teaching dental health to various population groups.

152. *Dental Radiology*. I. 2 hr. PR: Enrollment in dental hygiene. Basic principles and procedures in oral radiology technics and interpretation.
160. *Dental Materials*. I. 3 hr. PR: Enrollment in dental hygiene. Lecture and laboratory covering the science and manipulation of dental materials. (2 hr. lec., 1 hr. lab.)
161. *Expanded Functions*. II. 2 hr. PR: Dnt. Hy. 160. Lecture and laboratory covering specialty topics in dentistry for expanded functions, four handed dental assisting, and the placing and carving of amalgam and resin restorations in dentiform teeth. (1 hr. lec., 1 hr. lab.)
162. *Dental Hygiene Clinical Methods*. I. 2 hr. PR: Dnt. Hy. 125. Principles of oral prophylaxis, instruction in the care of special patients, use of diagnostic aids, and nutritional counseling. (2 hr. lec.)
163. *Clinical Dental Hygiene 1*. I. 2 hr. PR: Dnt. Hy. 125. Clinical application of dental hygiene principles and techniques. (2 hr. lab.)
164. *Clinical Dental Hygiene 2*. II. 2 hr. PR: Dnt. Hy. 162, 163. Clinical applicator of dental hygiene principles and techniques. (2 hr. lab.)
168. *Periodontics*. I. 1 hr. PR: Enrollment in dental hygiene. Tissues of the periodontium, histopathology of periodontal disease with emphasis on etiology, examinations, diagnosis, treatment, and prevention within the scope of dental hygiene.
169. *Periodontics*. II. 1 hr. PR: Dnt. Hy. 168. A sequential course to Dnt. Hy. 168. Includes recognition and treatment of periodontal disease with emphasis on occlusion, surgical procedures, and post-operative care of patients.
172. *Public Health*. I. 2 hr. PR: Enrollment in dental hygiene. Theory and practice of preventive dentistry and community health.
174. *Dental Hygiene Teaching Methods*. II. 2 hr. PR: Enrollment in dental hygiene. Concepts and principles of administration, curriculum, and clinical teaching unique to dental auxiliary education. Emphasis on overall role of the dental hygiene educator.
202. *Dental Hygiene Practice*. I. 2 hr. PR: Senior enrollment in dental hygiene. Scope of practice for the dental hygienist including ethical and legal considerations. Public and professional relations as well as practice management are discussed.
204. *Advanced Dental Hygiene Methods*. I. 1 hr. PR: Senior enrollment in dental hygiene. Principles of advanced clinical dental hygiene and practice in non-traditional settings. (1 hr. lec.)
205. *Advanced Clinical Dental Hygiene 1*. I. 5 hr. PR: Senior enrollment in dental hygiene. Clinical experience in traditional and expanded duties; pre- and post-operative care of surgical patients, and radiology. (5 hr. clinic.)
206. *Advanced Clinical Dental Hygiene 2*. II. 3-4 hr. PR: Senior enrollment in dental hygiene. Continuation of clinical practice experience in dental hygiene procedures. (3-4 hr. clinic.)
220. *Special Topics in Dental Hygiene*. I, II. 1-22 hr. PR: Senior enrollment in dental hygiene. Special topics relevant to dental hygiene. A variety of sections offer elective opportunities to dental hygiene majors.

School of Medicine

The School of Medicine began as the College of Medicine in 1902. For ten years this program was affiliated with the College of Physicians and Surgeons of Baltimore, Md. In 1912 the School of Medicine had its formal beginning as an independent school offering the first two years of the medical curriculum. The School of Medicine moved from the Downtown Campus to the Medical Center in 1957 and inaugurated a four-year program in 1960. This coincided with the opening of University Hospital. In 1961, the first M.D. degrees were awarded to 15 students.

In 1945 the School of Medicine established a curriculum in Medical Technology leading to a degree of bachelor of science. The first graduates were awarded a combined degree by the College of Arts and Sciences and the School of Medicine in 1947. The Program of Medical Technology was established in the School of Medicine in 1961. The Division of Physical Therapy was established and accepted its first class of 16 students in 1970. The division offers the final two years of a baccalaureate program leading to a degree in physical therapy.

West Virginia University Medical Center—Charleston Division was established in October, 1972, with the affiliation of WVU and the Charleston Area Medical Center. The Charleston Division offers programs for third and fourth-year medical students in a variety of required and elective courses.

West Virginia University School of Medicine—Wheeling Division was established in 1974. This program is available for many elective opportunities for students in the fourth year.

Committees (Chairpersons)

Academic Standards: Gunter N. Franz.

Biomedical Research Support: Roy L. Butcher.

Dean's Committee to Clarksburg VA Hospital: Richard A. DeVaul.

Curriculum Committee: Richard M. Iammarino.

Executive Faculty: Richard A. DeVaul.

Educational Advisory: Richard A. DeVaul.

Faculty Promotion: Michael G. Mawhinney.

Medical School-Hospital Liaison to Student Body: Richard A. DeVaul.

Student Admissions: David S. Hall.

E. J. Van Liere Student Research Convocation: Wilbert E. Gladfelter.

Continuing Medical Education: David Z. Morgan.

Admissions Committee for Medical Technology: Jean Holter.

Admissions Committee for Physical Therapy: Carolyn E. Barnes.

Degree

The degree of Doctor of Medicine (M.D.) is granted to students who have completed the prescribed curriculum and who have been recommended for the degree by the faculty of the School of Medicine.

It is to be understood that the following information applies only to students in the School of Medicine who are enrolled in the prescribed curriculum which culminates in the M.D. degree. All other students, undergraduates or graduates, enrolled in other programs in the School of Medicine are governed by the policies found elsewhere in the *Medical Center Catalog*.

Combined M.D.-Ph.D. Program

This program should be considered only by students who have shown exceptional interest and promise. All of the admission requirements of the School of Medicine and the specific graduate program will apply. Specific course requirements and procedures for monitoring progress will be detailed by both programs.

Students are advised to initiate the combined program at the completion of the first year of medical school.

Admissions

Preference in admission is given to West Virginia residents and those non-resident applicants who have strong ties to the state of West Virginia. Careful consideration is given to those personal qualifications which apply to the study and practice of the medical profession. No one specific factor is used to determine admission. The criteria considered include: academic performance, course loads, personal interview, letters of recommendation, MCAT-scores, motivation, and interpersonal skills. Any applicant who is refused admission, or who does not enroll after acceptance, must reapply in the regular manner if consideration for a subsequent year is desired.

The admission process is initiated by completing the American Medical College Application Service (AMCAS) forms. AMCAS packets may be obtained from the Office of Admissions and Records of the West Virginia University Medical Center, or through most pre-professional advising offices.

Application for Admission

Application for admission in August, 1989, should be made upon completion of the 1987-88 school year or June 1, 1988. The latest date for filing an application is December 1, 1988. It is desirable for applicants to file early and to make certain that recent (no more than two years old) Medical College Admission Test scores, current transcripts, and letters of recommendation are available to the Committee on Admissions.

College Credit Required

The applicant should present a broad general education including a major in some field, not necessarily a science. The Admissions Committee needs evidence of excellence of academic performance and steady progress toward a goal.

An excess of credit hours or higher degrees does little to offset the disadvantages of low grades in securing admission to the School of Medicine. The practice of repeating courses to raise the grade is discouraged. Applicants who have been subject to suspension from the West Virginia University or other medical schools can be admitted only in very exceptional cases and at the discretion of the Committee on Admissions.

The following courses are required for consideration of an application to Medical School.

English	6 semester hours or equiv.
Biological Sciences (with lab)	8 semester hours or equiv.
Inorganic Chemistry (with lab)	8 semester hours or equiv.
Organic Chemistry (with lab)	8 semester hours or equiv.
Physics (with lab)	8 semester hours or equiv.
Social or Behavioral Sciences	6 semester hours or equiv.

A strong quantitative background is recommended, including calculus.

A total of 90 semester hours of work, exclusive of Military Science (ROTC) and General Physical Education, is required.

It is recognized that applicants for medical school may have very diverse undergraduate backgrounds with a variety of majors. While many undergraduate courses, aside from the required prerequisites, might be beneficial in providing additional background for medical school, the choice of such courses should be determined by the academic strengths and weaknesses of the particular applicant.

Medical College Admission Test

The scores of the Medical College Admission Test (MCAT) are one of the factors used by the Admissions Committee in considering an applicant for admission. For this reason, it is strongly recommended that students take the test in the Spring before making application for admission. Delaying the test until Fall, even though all science courses may not have been completed, jeopardizes an applicant's opportunity since no final consideration is given until MCAT scores are obtained by the Admissions Committee. No applicant can be considered who delays taking the MCAT until Spring of the year of expected entry. Information concerning the time and place of the test can be obtained from your premedical adviser or committee or the Office of Admissions and Records. The Medical College Admission Test is required of all applicants, and it must have been taken within the past two years before applying.

Personal Interview

No applicant is admitted without an interview by the Committee on Admissions. Currently, all residents of West Virginia are granted an interview. Qualified nonresident applicants are interviewed at the discretion of the Committee on Admissions. The applicant is notified of the time and place of the interview. Interviews and consideration of applicants begin in September.

Conditions Following Acceptance

The accepted applicant is expected to meet all entrance requirements and satisfactorily complete all undergraduate work in progress. A satisfactory performance in the completion of such work is defined as one which is consistent with the student's previous academic record. Failure to do so may result in the withdrawal of the acceptance by the Committee on Admissions.

The student is to be aware that furnishing or causing to be furnished false or incorrect information for the purpose of the School of Medicine application constitutes grounds for disciplinary actions, including, but not limited to, expulsion or revocation of the acceptance.

Admission to Advanced Standing

Only in very exceptional circumstances may students be admitted to advanced standing positions. A request for transfer is considered only at the end of the second year. The application must be received no later than May 15. Results of either Part I of the National Board of Medical Examiners or the Medical Science Knowledge Profile (MSKP) test must be available before an application can be finalized. In addition, the applicant must present certification of good standing in the school from which the applicant is transferring. An official transcript of all prior medical school work from all medical schools attended is required.

Examinations and Evaluation of Student Progress

It is the policy of the School of Medicine that the several departments conduct examinations of various types from time to time to help in the overall evaluation of student progress. A Satisfactory (S) or Unsatisfactory (U) designation is formally recorded for each course. In addition, each department files in the Office of the Dean a narrative evaluation of the work of each student, identifying strengths and weaknesses and suggesting remedial or corrective measures, if appropriate.

In addition to departmental examinations, which help serve as a basis for recording grades in individual courses, other examinations may be conducted at times for other purposes. At the end of the first year a comprehensive examination, designed on an interdepartmental basis, may be required as a test of readiness for promotion. National Board of Medical Examiners, Part I, examinations are given as part of the testing of achievement in individual disciplines and are incorporated in the final grade for that course. The student is encouraged to take the complete Part I examination as a candidate for National Board certification near the end of the second year. The Part II examination is required as a comprehensive test in clinical science.

The overall performance of the student on the National Boards will be taken into account by the Committee on Academic Standards when considering decisions regarding promotion, and by the faculty when making the official recommendation for granting degrees.

All states require that physicians be licensed to practice medicine. Satisfactory completion of all portions of the National Board of Medical Examiners examination is one mechanism by which a license may be obtained. Differing amounts of postgraduate medical education are required by various states before considering application for licensure. This should be determined on a state-by-state basis.

Promotions and Progress

The Committee on Academic Standards administers the promotions and dismissal rules. Exceptions may be made only on recommendation of the committee. The application of rules on dismissal is not automatically changed by removal of Incomplete (I) grades or by the repetition of courses in other medical schools.

1. The Committee on Academic Standards of the School of Medicine reviews the performance of each student in every course at the end of each academic period and makes recommendations to the Dean. If a student has been found to have an unsatisfactory performance in any of the required courses, dismissal from the school may be recommended. In selected circumstances, the committee may recommend remedial work or repetition of all or a portion of the curriculum.

Rarely, a student may be subject to remedial work or dismissal on recommendation of the Committee on Academic Standards to the Dean even though no Unsatisfactory (U) grade has been received in a required course. Such an unusual event would occur only if, in the opinion of the Committee, the student's overall performance does not meet the academic standards of the School of Medicine.

2. No student will be permitted to register for any work of the second or subsequent year until all courses for the year before have been completed successfully.

3. All courses and all classes at the School of Medicine are graded as Satisfactory (S) or Unsatisfactory (U) at the completion of the course in lieu of other letter grades. The S and U designation is accompanied by a narrative report of the student's progress and any factors requiring remedial work or counseling. The U shall be regarded as a failing grade and all University regulations regarding a failed course shall then apply.

4. Readmission of a dismissed student is the prerogative of the Committee on Admissions after careful review of the student's performance, including but not limited to, recommendations of the Committee on Academic Standards.

5. All nondisciplinary matters are governed by the concept of academic due process.

6. Upon concurrent recommendation of the Committee on Admissions, the Committee on Academic Standards, and the departments concerned, a limited number of students may be admitted to the School of Medicine to follow a special schedule reflecting the student's individual needs to complete requirements for the M.D. degree.

In view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend to the President of the University the removal of any student from its rolls whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession. In all other matters regarding Academic Rights and Responsibilities of students, matters concerning promotions, disciplinary actions for failure to meet academic standards, and appeals procedures due process principles shall apply. For further information the reader is referred to "The Policy on Academic Standards" governing the M.D. degree program at West Virginia University School of Medicine which is available at the School of Medicine Office of Student and Curricular Affairs.

Incomplete Courses

The grade of Incomplete (I) is given when the instructor believes that the work is unavoidably incomplete or that a supplementary examination is justifiable. If a grade of I is not removed by satisfactory completion of the work before the end of the next semester in which the student is in residence, it becomes a failure unless special permission to postpone the work is obtained from the Committee on Academic Standards (University rule.) It is the responsibility of the student to consult the instructor about the means and schedule for making up incomplete courses.

Departure From Scheduled Work

Medical students must register for all prescribed courses for each semester except by special permission from the Committee on Academic Standards of the School of Medicine. This permission is not valid until it has been reported to the Assistant to the Director of Admissions and Records, Medical Center, for record. The Office of Student and Curricular Affairs in the School of Medicine must also be notified.

Departure

Interruption of academic work must be approved by the Office of Student and Curricular Affairs.

Honor Code

Students in the School of Medicine agree to abide by the provision of an honor code, which requires ethical and moral standards of conduct in all situations. Each student is required to return a signed statement to the Office of Student and Curricular Affairs, indicating the student has read and understands the student honor code of the West Virginia University School of Medicine. The code and copies of the statement are available in the Office of Student and Curricular Affairs in the School of Medicine.

Immunizations

Prior to matriculation, all students must complete certain prescribed immunization and diagnostic procedures.

University Hospitals and Outpatient Clinics

University Hospitals and its outpatient clinics are dedicated to the education of students in the multiple disciplines of the health fields and to the advancement of knowledge in the sciences and arts concerned with health and illness.

The University Health Service (Student Health) is equipped to provide the majority of health care requirements free of charge to registered students. These facilities are open on a daily basis at the hours posted by University Health Service. Students needing health care are urged to consult with the University Health Service for health care needs. If a true emergency occurs or the University Health Service is not open, the student may be seen in the emergency room; however, additional charges may be incurred for this service as well as for diagnostic studies ordered.

All students who have a health problem which they feel may be causing difficulty with their academic progress are strongly advised to notify the Associate Dean for Student and Curricular Affairs.

Curriculum Plan

First and Second Years

The plan of study is directed toward the principles and methodology of the medical basic sciences. However, the basic courses are designed so that the student begins to integrate concepts of patient care.

The student has the opportunity of an additional early exposure to patient-oriented instruction through the introduction to physical diagnosis and community medicine courses in the first term of the freshman year.

With the recognition that entering medical students have a wide variety of interests and backgrounds, elective opportunities are offered in the basic sciences, beginning with the second term of the freshman year. The permissible elective courses or plans of study have broad limits and need not be confined to the Medical Center. The intention is to encourage responsible student initiative.

See Medicine I and Medicine II charts for representative schedules.

MEDICINE I

CONTACT HOURS PER WEEK

FIRST SEMESTER

WEEKS 5 10 15

4	Physiology
8	
12	Gross Anatomy
16	
20	
24	
28	Biochemistry
32	
36	
40	
44	Elective and Study Time
48	
52	
56	

SECOND SEMESTER

WEEKS 5 10 15

4	Neurobiology
8	
12	Microanatomy
16	
20	Physiology
24	
28	Epidem. & Biostat.
32	Behavioral Med. & Psychiatry
36	Elective and Study Time
40	
44	
48	

MEDICINE II

CONTACT HOURS PER WEEK

FIRST SEMESTER

WEEKS 5 10 15

4	Pathology
8	
12	Microbiology
16	
20	
24	
28	Behavioral Med. & Psychiatry
32	Introduction to Clinical Med.
36	
40	Elective and Study Time
44	
48	
52	

SECOND SEMESTER

WEEKS 5 10 15

4	Pathology
8	
12	Pharmacology and Toxicology
16	
20	
24	
28	Genetics
32	Community Medicine
36	Introduction to Clinical Med.
40	
44	Elective and Study Time
48	
52	
56	

MEDICINE III

Clerkships

WEEKS

12	Medicine
12	Surgery
12	Behavioral Medicine and Psychiatry
	Obstetrics and Gynecology
12	Pediatrics
	Neurology, Pediatrics OPD, Acute Medicine
48	TOTAL

Third Year

A tightly-structured traditional third year gives the student a foundation in history-taking, examination, patient relations, laboratory aids, diagnosis, treatment, and use of the medical literature in the major clinical disciplines.

A number of third-year students will be selected during their second year to spend part or all of the third and fourth year in specified clerkships at the Charleston Division of the WVU Medical Center or other affiliated programs as designated by the faculty of the School of Medicine.

Ordinarily, third-year students should take Part II of the National Board of Medical Examiners examination in September of their fourth year. Under special circumstances, third-year students may take Part II of the NBME in April of their third year even though they will not have completed all of their clinical clerkships. In the event there is a question about when to take Part II, the student is advised to contact the Office of Student and Curricular Affairs in the School of Medicine.

Fourth Year

The fourth year is selective. Each student works with an adviser to select the program best suited to his/her individual abilities and goals. The courses selected are subject to the approval of the Associate Dean in the Office of Student and Curricular Affairs. The majority of the students choose a broad selection of clinical rotations.

Sixteen weeks of the fourth year must be spent in the intramural program of the Morgantown campus or the Charleston Division campus. The programs at the campuses are not interchangeable. A *Catalog* is available from the Office of Student and Curricular Affairs that lists the approved intramural selections.

Students interested in other extramural opportunities are advised to consult with the fourth-year curriculum coordinator in the Office of Student and Curricular Affairs. Selective time must be spent in LCME (Liaison Committee for Medical Education) and JCAH (Joint Council of American Hospitals) accredited institutions. Foreign rotations, regardless of sponsorship, are limited to four weeks.

Every fourth-year student has the opportunity for four weeks of vacation. The student may alternatively choose a clinical exercise for vacation time.

Courses of Instruction

Anesthesiology (Anes.)

Professors Eller (*Chairperson*), Heironimus, Martinez, Rodman, and Smith; Associate Professors Dedhia, Graf, Schiebel, and Teba; Assistant Professors George, Jopling, Lampkins, M. Minnich, S. Minnich, Nehru, Romine-Long, and Stadelnikas; Clinical Professors Cwik, Irving, Lilly, Stullken, Weeks, and Zeedick; Clinical Associate Professors Bettinger, Hall, Jawalaker, Koliner, Rajaratnam, Swensen, Tercan, and Westmoreland; Clinical Assistant Professors Bellotte, Bergman, Carter, Douglass, Dua, Gannon, Geronilla, Glicken, Green, Hovis, Huber, Kasraie, Kessel, Larkin, Long, Mantia, Mathew, Reddy, Saldanha, and Schienholtz; Clinical Instructors Chevuru, Delgra, Mixon, Thompson, Trei, Valcarcel, and Walker.

301. *Basic Sciences Applied to Anesthesia—Medicine I and II.* 1-6 hr. per year. PR: Consent. (Not offered during summer.) Examination and evaluation of data, decision-making, discussion of special procedures. (Max. enrollment: 10.)
331. *Clinical Clerkship in Anesthesiology/Acute Medicine. (Third Year.)* CR.
- A. *Lectures to Third-Year Students on Topics Related to Anesthesiology.*
- B. *Clinical Clerkship in Acute Medicine.* Preanesthetic evaluation, local and systemic anesthesia, airway management, cardiopulmonary resuscitation, respiratory care, clinical pharmacology, toxicology, fluid and blood therapy, and pain management. Seminars and practical exercises in emergency cardiac life support clinical experience in ICU or OR. (Duration: 2 weeks.)
399. *Selective Experiences in Anesthesiology. (Fourth Year.)* CR. (See Conjoined Courses.)
- A. *Clinical Anesthesiology.* Participation in all aspects of intensive and respiratory care. Laboratory methodology. Measurement of ventilatory and circulatory parameters. Ventilator use and management. Offered continuously. Duration: 4 weeks. (Max. enrollment: 2.)
- B. *Intensive and Respiratory Care.* Direct participation in all aspects of intensive and respiratory care. Laboratory methodology. Measurement of ventilatory and circulatory parameters. Ventilator use and management. Offered continuously. Duration: 4 weeks. (Max. enrollment: 2.)
- C. *Pain Clinic.* Objective: To evaluate and treat patients with intractable pain from various disease states. Direct participation through a multidisciplinary approach using modalities of nerve blocks, physical therapy, sensory modulation, behavioral therapies, and neuropharmacology. Participation from Departments of Anesthesiology and Behavioral Medicine and Psychiatry. Duration: 2-8 weeks. Offered: Continuously. (Max. enrollment: 2.)
497. *Anesthesiology Research.* 1-15 hr. Participation in a variety of ongoing clinical research projects and/or in laboratory research related to the mechanism of action of analgesic drugs upon neurotransmitters and neuronal pathways involved in pain inhibition particularly monoaminergic and opioid processes. Duration: 4-24 weeks. Offered: By arrangement. Max. enrollment: 2.

Behavioral Medicine and Psychiatry (B.M.P.)

Professors Azzaro, DeVaul, Flink, Kelley, Morgan, Morgan, Quarrick, and Stevenson (Chairperson); Associate Professors Claude, Clausell, Cone, Ellis, Kommor, Linton, Reamy, Robison, Seime, Smith, Tinnin, and Walker; Assistant Professors Bhanot, Coppa, Desai, Fuller, Ganahl, and King; Research Assistant Professors C. Sullivan and P. Sullivan; Adjunct Professor Levine; Adjunct Associate Professors Barnette and Elkins; Adjunct Assistant Professors Desai, Faris, Hamilton, Harms, and Stephen; Adjunct Instructor Kent; Clinical Professors Ayd, Bateman, Carter, Comer, Haynes, Marquis, Mortell, Rossman, Weise, Withersty, and Wurmser; Clinical Associate Professors Collins, Edelstein, Edwards, Faheem, Goodman, Greenwood, Ingersoll, Kerns, Knapp, Nahemow, Panepinto, Settle, Smith, Strokes, and Ward; Clinical Assistant Professors Allen, Almond, Brailier, Capage, Chambers, Davis, Dickey, Donovan, Dunning, Fawley, Fink, Frye, Guy, Hamilton, Hasan, Hill, Hutton, Kovacevich, Lavine, MacCallum, McCluskey, McNeer, Morgan, Naviaux, Neilan, Panepinto, Portz, Puzzuoli, Sine, Smith, Smith, Soule, Stein, Tellers, Webb, and Williams; Clinical Instructors Caruso, Fawley, Gantt, and Hunter.

311. *Introductory Psychiatry. (First Year.)* II. 2 hr. An examination of normal psychological development; consideration of the doctor-patient relationship and physician impairment. A preceptor model is used to introduce the patient to interviewing, emphasizing the mental status examination.
321. *Introductory Psychiatry. (Second Year.)* I. 2 hr. Continuation of B.M.P. 311 with an in-depth look at basic science and social science parameters in psychiatry. Major clinical syndromes along with biological and environmental concomitants are presented. Advanced psychiatric interviewing is the focus of the preceptorship.
341. *Clinical Clerkship in Psychiatry. (Third Year.)* CR. Required of third-year medical students. Full-time assignment to the inpatient service in psychiatry, and participation and treatment of psychiatric disorders. Emergency Room responsibility.
399. *Selected Experiences in Behavioral Medicine and Psychiatry. (Fourth Year.)* (See Conjoined Courses.)

Community Medicine (C. Med.)

Professors Pearson (Chairperson), Carlton, and Kotchen; Clinical Professor Heydinger; Adjunct Professors Crews and Young; Associate Professors Hall, Smith (Emeritus), Wiles (Emeritus), and Wyant (Assistant Chairperson); Clinical Associate Professors Cooley, deMontigny, Greenwood, Rosenberg, and Schwerha; Adjunct Associate Professors Ames, Brough, Goodwin, Graham, and Reger; Assistant Professors Garland and Jabbour; Clinical Assistant Professors Avashia, Fenton, Hopkins, Howard, Mukkamala, and Scobbo; Adjunct Assistant Professors Amandus, Attfield, Gamble, Harper, Nottingham, Pollard, and Wright; Clinical Instructors Atkins, Barry, Patton, and Shafer; Adjunct Instructors Dacey, Melton, Peterson, and Wilson.

311. *Methods of Biostatistics. I.* 3 hr. PR: Math. 3. Basic concepts of statistical models, distributions, probability, random variables, test of hypotheses, confidence intervals, regression, correlation, F and X^2 distributions, analysis of variance with emphasis on methods of biostatistics. (Equiv. to Stat. 311.)
312. *Community Medicine. (Second Year.)* II. 2 hr. Open to limited number of graduate students. PR: Consent. The role of the physician in the prevention of disease and in the examination of health status in a community, with reference to demographic, economic, sociologic, environmental, and occupational factors. The organization of public health and medical care.
322. *Epidemiology and Biostatistics. (First Year.)* II. 2 hr. PR: Consent; medical students only. Epidemiological and statistical analysis of biologic phenomenon as related to medicine. Emphasis on descriptive statistics, analytical epidemiology, statistical inference, measures of association, and evaluation of medical literature.

Conjoined Courses (CC MD)

399. *Selective Experiences in Medicine. (Fourth Year.)* I, II, S. CR. PR: Satisfactory completion of the first three years of the medical curriculum. (Graded as S or U.) The fourth year is selective and offers a wide range of opportunities. The student works with the adviser to select the individual program. This program must also be approved by the Associate Dean in the Office of Student and Curricular Affairs. The year is composed of eleven 4-week blocks, 16 of which must be spent in intramural programs on the Morgantown campus or at the Charleston Division—WVU Medical Center. A *Catalog* is available that lists the specific guidelines for the fourth-year curriculum as well as approved intramural and in-state extramural selectives.

Family Medicine

Professors Traubert and Vazquez; Associate Professors Arbogast, Lewis (Chairperson), Palmer, and Ponte; Assistant Professors Cleavenger, Dattola, Nath, and Swinker; Clinical Professors Davis, Fullmer, Hall, Jackson, Jarrett, Simmons, and Tully; Clinical Associate Professors Brooks, A. Cavender, J. Cavender, Eckert, Hess, Kellas, Mangus, Rashid, and Santrock; Clinical Assistant Professors Bergman, Clark, Crigger, Dickey, Elliott, Frey, Gais, Graham, Hayes, Hofreuter, Lewis, Lindsay, McNeill, Merrifield, Nau, Perrine, Reed, Ritz, Roberts, Saver, and Sine; Clinical Instructors Blum, Casto, Conley, Hanna, Harris, Hokanson, Stearns, Taylor, and Wack; Patient Educator Murray.

399. *Selected Experiences in Family Medicine. (Fourth Year.)* (See Conjoined Courses.)

Medicine (Med.)

Professors Albrink, Bekheit, Chideckel, D'Alessandri, DiBartolomeo (Chief, Rheumatology), Flink, Jain (Chief, Cardiology), Jones (Vice President, Health Sciences), Khakoo (Chief, Infectious Diseases), Kien (Chief, Clinical Nutrition), J. M. Kotchen, T. A. Kotchen (Chairperson), Lapp, D. Z. Morgan, E. Morgan, Ortel, Point, Raich (Chief, Hematology/Oncology), Riggs, Shultz (Chief, Medicine, Wheeling Division), Stevenson, Ullrich, and Welton (Chief, Dermatology); Associate Professors Al-Kawas, Colvin, Dedhia, Feder, Foulks, Gaskins (Chief, Gastroenterology), Grubb, Hogan, Kleinmann, Morise, Moss, Murgo, Powers (Acting Chief, Comprehensive Medicine), and Rogers; Assistant Professors Abrons, Antonelli, Borsch, Brick, Fisher, Funk, Holley, Kovach, Kujala, Kung, Layne, Liput, Maxwell, Neely, Paar, Phillips, Rector, Rohrer, Schmidt, Seibert, Shamma'a, Shockcor, and Teba; Research Assistant Professors Shumway and Sullivan; Instructors Blehschmidt, Blum, and McDonald; Adjunct Associate Professors Castellan, Counts, Hodous, and Yeater; Adjunct Assistant Professors Becker, Pau, and Rodriguez; Clinical Professors Emeriti Blatchley, Johnson, and Pushkin; Clinical Professors Artz, Avington, Carter, Gaziano, Koppel, Latos, Lee, Lewis, Marshall, Pfister, Point, Reiter, Revercomb, Santer, Saville, Selinger, Skaggs, Valentine, and Warren; Clinical Associate Professors Avashia, Basu, Byrd, Chvasta, Duncan, Gainer, Hall, Houston, Jackson, Jones, Jubelierer, Kaplan, Koliner, MacCallum, McCabe, McJunkin, Noble, Palmer, Parsons, Patel, Petsonk, Schwerha, Scobbo, Szego, Thakker, Thrush, Vasquez, Warren, and Zaldivar; Clinical Assistant Professors Ahmad, Altmeyer, Beall, Burke, Cassis, Chokkavelu, Cornwell, Crotty, Cunningham, Drews, Duffy, Guy, Harman, Harper, Hijab, Iyer, Keegan, Kerns, Lamb, Lee, Lewis, Liebeskind, Lilly, Lyons, Masilamani, Mazzocco, McCagh, McHugh, Mehrotra, O'Keefe, Pierson, Rahman, Rajan, Roberts, Roidad, Romano, Scarr, Schaeffer, Schwartz, Shah, Shehl, Sikora, Stone, Treharne, Vaughn, and Wright; Clinical Instructors Abrahams, Bivens, Denton, Farooqi, Humphreys, Jimenez, Lim, Parker, Reynolds, and Skaff.

321. *Physical Diagnosis—Introduction to Medicine.* I, II. 5 hr. PR: Consent. Examination of normal subjects. Clinical concepts and practical experience in history taking and physical examination.

331. *Clinical Clerkship in Medicine. (Third Year.)* CR. Required of third-year medical students. The individual student is assigned responsibility for specific patients from the in-patient service at University Hospital or Charleston Area Medical Center service. The student is an integral part of the team providing diagnostic and treatment services needed by the patient, under direct supervision of members of the faculty of the department. The student elicits the patient's history, performs physical examinations, and performs or secures indicated laboratory and clinical studies. The student records findings and presents case reports for discussion by members of the faculty during hospital rounds or out-patient clinics. The student attends such staff conferences, etc., as directed by the departments. Clerkship in medicine occupies 12 weeks.
370. *Medical Genetics. II. 2-4 hr. PR:* Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as Gen. 370, Pedia. 370, CC MD 370.)
399. *Selected Experiences in Medicine. (Fourth Year.)* CR. (See Conjoined Courses.)

Neurological Surgery

Professors Kaufman (Chairperson), Nugent, and Dunker.

399. *Selective Experiences in Neurological Surgery. (Fourth Year.)* (See Conjoined Courses.)

Neurology (Neuro.)

Professors Azzaro, Gutmann (Chairperson), Martin, Riggs, and Schochet; Assistant Professors J. Brick, Keefover, and Ringel; Clinical Professors Heck and Poffenbarger; Clinical Associate Professors Brick, Crosby, Kettler, and Pratt; Clinical Assistant Professors Govindan, Grouse, Loudon, Morehead, Morgan, Stiller, Swisher, and Tellers.

341. *Clinical Clerkship in Neurology. (Third Year.)* CR. Required of third-year students. Basic fundamentals of the neurological evaluation and neurological diseases. Evaluation and treatment of hospitalized patients with neurological illnesses performed under supervision of attending and resident physicians. Conferences and correlative instruction in neuropathology and neuroradiology.
399. *Selected Experiences in Neurology. (Fourth Year.)* CR. (See Conjoined Courses.)

Obstetrics and Gynecology (Obst.)

Professors Butcher, Cox (Chairperson), Glover, and Mairs; Professor Emeritus Fugo; Associate Professors Ashraf, Gordon, Miller, Reamy, and Toffle; Associate Professor Emeritus Foss; Assistant Professor Awadalla; Clinical Professors Behnam, Bonney, Chambers, Crites, Giles, Giustini, Palladino, and Withersty; Clinical Associate Professors Arceo, Athari, Battaglino, Berry, Clark, Grubb, Keefer, Maxson, Percy, Sandhu, Stone, Thomas, Wanger, and Williams; Clinical Assistant Professors Cunningham, Curnutte, Fulcher, Georgiev, Hitt, Jones, Turner, and Van Riper; Clinical Instructors Bonasso, Busch, and Gyimesi.

341. *Clinical Clerkship in Obstetrics and Gynecology.* (Required of third-year medical students.) Presents core knowledge of obstetrics and gynecology with small group instructional seminars, ward rounds, didactic teaching sessions and grand rounds conducted by faculty, house officers, visiting faculty, and students. Students are involved with care of all patients, participating in an essential role in patient care. Experience extends to outpatient clinics in all aspects of obstetrics and gynecology.

399. *Selected Experiences in Obstetrics and Gynecology. (Fourth Year.)* An elective subinternship in obstetrics and gynecology with major responsibility for patient care beyond that provided during the third-year curriculum. Students participate in outpatient and inpatient care with delegation of responsibility commensurate with level of training and ability. Supervision is provided by house officers and faculty. Greater participation in surgical procedures is provided, as well as active participation in complicated obstetrical patients.

Ophthalmology (Ophthalm.)

Professors Weinstein (*Chairperson*) and Colasanti; Associate Professors Linberg, Odom, and Schwab; Assistant Professors Feghali, Jabbour, Nork, and Powell; Clinical Professors Blaydes, Magee, O'Connor, Ryan, Strickland, Trotter, and Winkler; Clinical Associate Professors Hamrick, Nugent, Raju, Shepherd, and Schwab; Clinical Assistant Professors Cassis, Fiery, Fogle, Genin, Pangilinan, Park, Rashid, Schieve, Strauch, Tarakji, Tipler, and Toma; Clinical Instructors Caudill, Francke, Glen, McClure, Minardi, and Schieb.

399. *Selected Experiences in Ophthalmology. (Fourth Year.)* (See Conjoined Courses.) Students are presented with the opportunity to acquire clinical skills in ophthalmology including techniques of eye examinations and certain aspects of emergency and elective treatment of eye disorders. There is close supervision by housestaff and members of the full-time ophthalmology faculty. Areas of special faculty interest include glaucoma, corneal diseases, retinal and vitreous diseases, and oculoplastic surgery. There are opportunities for students to participate in basic and clinical research. This experience occupies four weeks and can accommodate a maximum of 2 students and an additional student for a research project.

Orthopedic Surgery (Orth. Surg.)

Professor Radin (*Chairperson*); Professor Emeritus Pickett; Associate Professors Blaha, Jones, and Labosky; Clinical Associate Professor Bowers; Clinical Assistant Professors Kurth and Stoll.

399. *Selected Experiences in Orthopedic Surgery. (Fourth Year.)* (See Conjoined Courses.)

Otolaryngology (Otolaryn.)

Professors Abbass, Cody, and Lass; Clinical Professors Bryant, Hall, Hatfield, Morgan, and Sprinkle; Associate Professor Haydon (*Acting Chairperson*); Clinical Associate Professors Bland, Cather, Haislip, Jaquiss, Kamerer, Lim, Malone, Mathias, Oliverio, Paine, Snider, Spencer, Sporck, Tekieli-Koay, Whitaker, and Wilkinson; Assistant Professor Young; Clinical Assistant Professors Azar, Berryman, Dodd, Holt, Livingstone, Nichols, Ragheb, Riester, Seung, Smith, Wade, and Wallace; Clinical Instructors Crigger, Hively, Hoge, and Laurent.

399. *Selected Experiences in Otolaryngology. (Fourth Year.)* (See Conjoined Courses.)

Pediatrics (Pedia.)

Professors Kelley, McJunkin, Neal (*Chairperson*), Starling, and Vasquez; Associate Professors Foulks, Haydon, Jones, Mullett, Myerberg, Ritchey, and Smith; Assistant Professors Baker, Balian, Desai, Ellington, Ferrari, Gay, Gustafson, Hummel, Johnson, Powell, Shumway, Sood, Tarry, Waldeck, and Zaboy; Instructor Sutherland; Research Associate Professors Connors and Strasburger; Clinical Professors Giles, Jakubec, and Potterfield; Clinical Associate Professors Ayoubi, Burech, Greever, Hoylman-Ayoubi, Kumar, Lambrechts, Lewine, Szego, Winterer, Wolf, and Woodrum; Clinical Assistant Professors Binder, Hahon, Hilligoss, Iskander, Jayaram, Morgan, Mossahebi, Peck,

Phillips, Reddy, Rhee, Simons, Staab, and Verma; Clinical Instructors Majunder and Uy.

331. *Clinical Clerkship in Pediatrics. (Third Year.)* CR. Required of third-year medical students. See description of clinical clerkship under Med. 331. Clerkship in Pediatrics occupies 6 weeks.
370. *Medical Genetics. II. 2-4 hr. PR:* Second-year Medical student standing; graduate student in Genetics and Developmental Biology; others by consent. Introduction to clinical genetics including molecular, biochemical, and cytogenetic aspects of human biology. Application of genetic principles to human health and disease. (Also listed as CC MD 370, Gen. 370, Med. 370.)
399. *Selected Experiences in Pediatrics. (Fourth Year.)* (See Conjoined Courses.)

Radiology (Radiol.)

Professors Gabriele (Chairperson) and Frich; Associate Professors Jain, Sinha, Slack, and Wald; Assistant Professors Chang, Conn, Cunningham, Higgins, Mace, Raofi, Secrist, and Willard; Clinical Professors Artz, Castro, and Kennard; Clinical Associate Professors Barger, Barnett, Bishop, Goodwin, W. Hayes, Hogan, Marano, Rogers, Sexton, J. Smith, and Wilder; Clinical Assistant Professors Abdalla, Briley, Caple, Caruso, Cordell, Crossen, Downey, Duncan, Dwyer, Gogineni, T. Hayes, Hetzer, Kalinowski, Kim, King, Koh, Koppikar, Kunst, Leef, Levy, Markowitz, Noble, Patterson, Reddy, Rosenblatt, R. Smith, Stupar, Tanguilig, Wershba, Wheatly, Weimer, Wolff, Wymer, and Yost.

The radiology staff aids in the instruction of students at all levels of the curriculum. They assist in the teaching of topographic anatomy in the first year. The careful interpretation of roentgenograms is an integral part of each clinical service.

101. *Radiology. Selected experiences in general radiology.*
102. *Neuroradiology. Review of neuroanatomy with respect to application in neuro-radiology. Selected experiences in neuroradiology.*
103. *Cardiovascular Radiology. Review of anatomy and embryology. Selected experiences in central and peripheral vascular radiology.*
104. *Radiologic Physics. Application of physics and mathematics to radiology, nuclear medicine, and radiation therapy.*
399. *Selected Experiences in Radiology. (Fourth Year.)* CR (See Conjoined Courses.)

Surgery (Surg.)

Professors Boland, Cochran, Murray (Chairperson), Vargish, and Warden; Clinical Professors Bradford (Emeritus), Charbonniez, Ghaphery, Gilmore (Emeritus), Glass, Gray, Hershey (Emeritus), James, Kappel, J. Khan, M. Khan, King, Lawton, Leadbetter, Linger (Emeritus), MacDonald (Emeritus), McConnell, Mendoza, Trenton (Emeritus), and Walker; Associate Professors Apeltgren, Covey, Gustafson, McDowell, and Quinlan (Adjunct); Clinical Associate Professors AbuRahma, Boustany, Chang, Dickey, Figueroa, Fogarty, Foster, Griswold, Harrison (Emeritus), Kessel, Kite, Lee, Looby, Mahan, Mantz, Markey, Polack, Rahbar, Reed, Riggs, Schaefer, Shabb, Shackelford, Surmonte, Suson, Trammell, Valasquez, Voss, and Williamson; Assistant Professors Bonitatibus, Hewitt, Hill, Cutierrez-Perry, Rector, Rose, Rozar, Saxe, Stewart, and Wanger; Clinical Assistant Professors Alfred, Al-Hajj, Amores, Barcinas, Burke, Cafoncelli, Capito, Carrier, Casuccio, Cash, Cross, Fedder, Franco, Fuller, Grant, Heiskell, Isa, Johnson, Kalla, Khoury, Kim, Kress, McLellan, Mossallati, Porcaro, Rao, Rashid, Robinson, Sampath, Seidler, Tile, Vaghei, Veach, and Walmsley; Instructors Blum, Slomski, and Vaughan; Clinical Instructors Cowan, Edwards, Holland, Neri, Staggers, Strauch, and Tolliver.

341. *Clinical Clerkship in Surgery. (Third Year.)* CR. Required of third-year medical students. Clinical clerks are assigned responsibility for hospitalized surgical patients under supervision of housestaff and attending surgeons. Students are an integral part of the team providing diagnostic and treatment services and are expected to take histories, perform physical examinations, and participate in ward and laboratory procedures. A course of surgical lectures, designed to outline surgical core curriculum, is given concurrently. The student is expected to attend the daily rounds and conferences arranged by the department.
399. *Selected Experiences in Surgery. (Fourth Year.)* (See Conjoined Courses.)

Urology (Urol.)

- Professors Kandzari, Lamm (Chairperson), and Milam; Assistant Professors Lachance and Tarry; Clinical Professors McCuskey and Summers; Clinical Associate Professors Durig, Lane, Lindert, McCoy, and Trapp; Clinical Assistant Professors Beneke, Belis, Celis, Cricco, Kassis, Naranjo, Palmer, Ravitz, Recht, Serrato, Shannon, and Stoughton; Clinical Instructors Bailey, Farsaii, McClellan, Plymale, and Vaidya.
399. *Selective Experiences in Urology. (Fourth Year.)* (See Conjoined Courses.)

Medical Technology

Undergraduate Program

The undergraduate program in medical technology is under the administration of the School of Medicine. Students are admitted into the program leading to a bachelor of science degree after the completion of two years of premedical technology in an accredited college or university. The WVU Medical Technology Program is accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association. Graduates are eligible for certification by the Board of Registry of the American Society of Clinical Pathologists (ASCP) and by the National Certification Agency for Medical Laboratory Personnel (NCA).

The undergraduate curriculum includes the premedical technology program, which is offered in the WVU College of Arts and Sciences and at Potomac State College in Keyser, and the medical technology program, which is offered in the School of Medicine.

Courses of the first two years (premedical technology) may be taken in any institution of recognized standing that offers the courses required for admission into the medical technology program.

Since the course of study of the last two years is of a professional nature, students must be enrolled in the WVU School of Medicine for this entire period. The work of the junior year (the first year in the medical technology program) includes courses to introduce the student to the medical sciences and courses to prepare the student for the work of the senior year. During the senior year (the second year in the medical technology program), the student receives both didactic instruction and practical experience in the University Hospital laboratories.

Aim and Purposes

The primary aim of the program in medical technology at WVU is to provide a strong undergraduate educational program in medical technology,

leading to a bachelor of science degree and providing an educational background compatible with the demands placed upon the medical technologist by the ongoing technologic revolution in laboratory medicine.

The purposes are: (1) to provide a program in medical technology that meets the academic standards of the University; (2) to provide graduate medical technologists for clinical, public health, and research laboratories; (3) to provide an educational background that enables graduates to prepare for teaching and supervisory positions in medical technology; and (4) to provide an educational background acceptable for graduate work in the medical sciences.

A program for certified medical technologists who want to complete requirements for a Bachelor of Science degree is available. Further information may be obtained by contacting the Medical Technology Programs Office.

Admission

Application for admission into the junior year (first year in the undergraduate medical technology program) should be made before the beginning of the second semester of the sophomore year in college. *Students at WVU or Potomac State College are not transferred automatically from the preprofessional course (first two years) to the professional course (third and fourth years.) Students are selectively admitted to the program for their final two years of work.*

Application forms for admission to the professional course are available after December 1 from the office of the Assistant to Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. The priority date for returning the application form is January 15 and the deadline date is February 1, if the student expects to enter the succeeding first semester classes.

Admission to the third year is on the recommendation of the Admissions Committee to the Dean. A personal interview with the Committee is required.

Admission Requirements

Complete information concerning WVU admission, fees and costs, registration, and regulations may be found in the *WVU Undergraduate Catalog*, College of Arts and Sciences section.

(a) Admission requirements for the first year (premedical technology) are those for the College of Arts and Sciences.

(b) Admission to the third year (first year of the medical technology program) is based upon two years of college work with a total of 62 hours as follows:

English. 6 hours. (Composition and rhetoric.)

Biological Science. 8 hours. (General biology or general zoology.)

Chemistry. 15-16 hours. (Inorganic chemistry, 8 hours; quantitative analysis, 3-4 hours; organic chemistry, 4 hours.) Transfer students are required to have a complete course in organic chemistry to include aliphatic and aromatic compounds, 8 hours.

Physics. 8 hours.

Mathematics. 3 hours. College algebra is the minimal course requirement. Trigonometry or higher mathematics is recommended.

Electives to complete the required hours and to meet University Liberal Studies Program requirements.

Courses such as bacteriology, parasitology, and anatomy should not be taken until after the completion of the sophomore year. A foreign language is recommended for students who plan to do graduate work.

Part-Time Curriculum

A part-time curriculum for the third and fourth years of the program is available. Students must meet all of the admission requirements and the application deadlines described for full-time students. For further information, contact the Medical Technology Program Office.

Admission to the Program

1. Applicants should have a minimum grade-point average of 2.5 (cumulative and science). Applicants with less than a 2.5 grade-point average (either cumulative or science) may be admitted on probation. The cumulative grade-point averages for probation are based on all completed prerequisites. Applicants with less than a 2.0 grade-point average, either cumulative or in the sciences, will not be admitted. A grade-point average of 2.5, or above, does not necessarily assure admission.

2. References will be reviewed and considered.

3. Applicants admitted to the program must maintain a grade-point average of 2.0 each semester. Students in the Medical Technology Program are expected to conduct themselves in a manner consistent with the ethics of the profession.

4. Admission of international students to the program will also be in compliance with regulations of the WVU *Undergraduate Catalog*. Excerpts are as follows:

"International students should make all arrangements for their financial obligations to WVU and for their entire stay in the United States before leaving their country.

"Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians although outstanding nonresident applicants will be considered. Careful consideration is given to those personal qualifications which bear upon fitness of applicants for the study and practice of the profession.

"Credentials—Complete and original official records of all studies undertaken by an applicant at any institution attended (secondary school, college, university, technical school, professional school, etc.) must be provided at time of application for admission to WVU. Copies of original records are acceptable, provided they are officially stamped.

"Such records should include: (1) complete dates of attendance; (2) identification of individual subjects; (3) total number of hours in each class per week; (4) total number of weeks each class meets in session; (5) final grade in each subject, for each year; (6) actual credits earned for each subject; (7) class, division, or rank achieved; (8) identification of the individual; (9) explanation of each institution's grading system; and (10) certification, and date, of degrees or awards achieved. If any of this information cannot be supplied, an official explanatory statement from the school should be submitted. (All documents must be accompanied by certified English translations.)"

5. Applicants completing or transferring credits to WVU must include a transcript of at least one science course (chemistry, physics, or biology) completed at an institution of higher education in the United States.

Academic Advancement and Standing

Junior Year—(First Year in the Medical Technology Program)

1. Any student having one or more Fs or more than 2 Ds at the end of the junior year will be suspended from the program.

2. Academic due process will be followed when students are suspended from the program.

3. No student with a grade-point average of less than 2.0 will be advanced to the senior year. A student admitted to the senior year with any grade of I (Incomplete) must satisfactorily remove the Incomplete within the following semester, unless permission for an extension is granted by the Senior Year Committee on Academic Standards.

4. No student will be advanced to the senior year unless recommended by the Junior Year Committee on Academic Standards regardless of academic average.

Second Year

1. To successfully complete the senior year, a student must maintain an overall grade-point average of 2.0 for each semester of the senior year.

2. The faculty of the program may suspend or place on probation at anytime a student who is not maintaining a 2.0 grade-point average.

3. If, in the judgment of an instructor, a student demonstrates a marked lack of understanding of course material, even though the student has an acceptable didactic average, a grade of I (Incomplete) will be submitted for that student. It is the student's responsibility to consult with the instructor for removal of an Incomplete.

An Incomplete grade must be removed within the following semester or will be recorded as F unless an extension has been petitioned for by the student and granted by the Senior Year Committee on Academic Standards.

CURRICULUM PLAN

Premedical Technology

First Year

First Semester	Hr.	Second Semester	Hr.
Chem. 15—Inorganic	4	Chem. 16—Inorganic	4
Elective*	3	Engl. 1—Comp. & Rhet.....	3
Math. 3, 4, or higher	3	Elective*	3
Biol. 1	4	Biol. 2	4
M. Tec. 1**	2		
	16		14

Second Year

First Semester	Hr.	Second Semester	Hr.
Chem. 115—Analytical	4	Chem. 131—Organic	4
Electives*	6	Electives*	6-9
Phys. 1	4	Phys. 2	4
Engl. 2—Comp. & Rhet.....	3		
	17		14-17

*Electives from Cluster A and Cluster B are to be selected to meet University LSP requirements.

**M. Tec. 1 is not a required subject. It is highly recommended that all students take this course. M. Tec. 1 is offered each semester.

4. Graduation requires completion of all academic work in a satisfactory manner and recommendation of the faculty of the School of Medicine.

5. If in the judgment of the faculty a student's overall performance is not consistent with good patient care or the public interest (regardless of grade-point average), the student may be suspended or required to do remedial work.

6. To suspend a student with an acceptable grade-point average requires appropriate documentation and recommendation from two thirds of the faculty in the program of medical technology.

7. Academic due process will be followed when students are suspended.

8. Any student who withdraws from the program in the senior year for any reason must petition the faculty in medical technology for readmission if such is desired.

Medical Technology
Third Year
(Medical Technology I)

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
M. Tec. 100	4	Parasitol. 224	4
Bioch. 139	5	M. Bio. 223	5
Physi. 241	4	M. Tec. 101	4
Elective	3	M. Tec. 202	2
		M. Tec. 210	1
		M. Tec. 291	2
	<u>16</u>		<u>18</u>

Fourth Year
(Medical Technology II)

Students receive didactic and clinical instruction in the University Hospital laboratories after completion of the junior year. The course of study begins with the summer session and covers three academic semesters. If the student has excessive absences during the senior year, the time loss must be made up at the end of the school year.

Students register for the following courses during the three semesters of study.

	<i>Hr.</i>
M. Tec. 200—Orientation	No Credit
M. Tec. 220—Immunohematology and Blood Banking	2
M. Tec. 221—Immunohematology and Blood Banking Laboratory	5
M. Tec. 230—Clinical Chemistry	2
M. Tec. 231—Clinical Chemistry Laboratory	5
M. Tec. 240—Clinical Hematology	2
M. Tec. 241—Clinical Hematology Laboratory	5
M. Tec. 250—Clinical Microbiology	2
M. Tec. 251—Clinical Microbiology Laboratory	5
M. Tec. 260—Instrumentation	2
M. Tec. 265—Laboratory Management	2
M. Tec. 270—Clinical Microscopy	1
M. Tec. 271—Clinical Microscopy Laboratory	1
M. Tec. 275—Medical Relevance of Laboratory Analysis	1
M. Tec. 280—Clinical Immunology	2
M. Tec. 290—Scientific Research and Writing	3
	<u>40</u>

Degree

The degree of Bachelor of Science in Medical Technology is granted to those students who have completed the prescribed curriculum and who have been recommended for the degree by the faculty of the School of Medicine.

Graduate Program

The WVU Medical Technology graduate program prepares graduate medical technologists for positions either as administrators and teachers in medical technology educational programs, or as supervisors in special areas of the clinical laboratory. The primary objective is to assist in development of knowledge in an area in administration, in education, or a special area of interest selected by the student which may be a special medical laboratory science as the specific area applies to laboratory medicine. Specializations include clinical chemistry, clinical microbiology, hematology, and immunohematology. The specific course work requirements for the master of science degree rests with the graduate adviser in the student's specific area of interest.

Graduate Committee: Professors Holter, Iammarino, Jagannathan, Mengoli, Moore, Jr., and Rodman.

Admission (M.S.)

Applicants must have a baccalaureate degree in medical technology from an accredited institution or a baccalaureate degree in an allied field and be a certified medical technologist with an acceptable certifying agency.

The area of concentration in medical technology desired by the student is considered in the evaluation of the undergraduate record as follows:

1. Individuals who desire to do special study in clinical chemistry, hematology, or immunohematology must have completed a minimum of 8 hours of physics, 3 hours of mathematics, 4 hours of organic chemistry, and 4 hours of quantitative chemistry on the college level.

2. Individuals who desire to do special study in microbiology must have completed 4 hours of organic chemistry and 16 hours of biological sciences.

3. A minimum of one year's experience in a clinical laboratory is required for admission.

Students will be required to make up deficiencies in the above, as well as other deficiencies deemed necessary by the adviser.

Applicants must have a minimum undergraduate grade-point average of 2.5 (based on A equals 4.0 grade points) for admission.

All applicants to the graduate program are required to take the general aptitude part of the Graduate Record Examination. Results should be sent to the Medical Technology Programs Office, West Virginia University, Morgantown, WV 26506.

Two letters of reference must be on file in the Medical Technology office. One letter should be from the major adviser in the undergraduate college and another from the immediate supervisor of the applicant's present position. An interview will be requested for all applicants who meet the requirements for admission.

Applicants are selected for admission on the basis of scholastic standing, recommendations, and interest in the field of medical technology. The number of applicants accepted is necessarily limited by the available facilities; and in general, applicants with the most experience are considered first.

Application Procedure

A preliminary application is filed in the Medical Technology office.

Letters of recommendation are sent to the Medical Technology Programs Office.

After approval of the preliminary application, the admission procedure is the same as for other programs in WVU graduate studies.

A personal interview is required before final admission to the program. This interview will give the graduate student an opportunity to evaluate the program and to determine if the program will offer the educational opportunities which the student desires.

Course of Study

It is expected that the students who enter the graduate program in Medical Technology will have a goal in mind and a special field of interest in medical technology. The program is tailored to the needs of the student as far as possible. A minimum of 36 semester hours of credit, including a research problem, is required. The student selects a major area of concentration from either education, supervision, or administration, and a minor area from clinical microbiology, clinical chemistry, clinical hematology, or immunohematology.

A minimum of 15 semester hours of course work from the following courses is required dependent upon major area of contentration.

The following course is required:

Ed. P. 320—Introduction to Research 3 hr.

If the major area is education, the following 3 hr. courses are available:

Hl. Ed. 320—Roles and Functions of Health Education 3 hr.

Ed. A. 320—Personnel Administration 3 hr.

Ed. A. 351—Administrative Procedures in Adult Education 3 hr.

Ed. A. 462—Higher Education Law 3 hr.

Ed. A. 463—Higher Education Finance 3 hr.

Ed. F. 320—Philosophic Systems and Education 3 hr.

If the major area is supervision and/or administration, the following courses are available:

Ed. A. 320—Personnel Administration 3 hr.

Ed. A. 462—Higher Education Law 3 hr.

Ed. A. 463—Higher Education Finance 3 hr.

Pub. A. 341—Administrative Organization and Management 3 hr.

Pub. A. 344—Public Personnel Administration 3 hr.

Pub. A. 345—Public Administration and Policy Development 3 hr.

Other courses available for either major for additional credit are:

Ed. P. 231—Sampling Methods 3 hr.

Ed. P. 321—Design of Experiments 3 hr.

Ed. P. 343—Statistical Analysis in Education 3 hr.

Ed. P. 260—Medical and Microcomputers in Instruction 3 hr.

Ed. P. 301—Introductory Behavior Analysis: Human Resources ... 3 hr.

Ed. P. 364—Precision Teaching 3 hr.

Ed. P. 370—Programmatic Research 3 hr.

Hl. Ed. 308—Community Health: Death Education 3 hr.

Hl. Ed. 309—Community Health: Drug Education 3 hr.

Ed. P. 311 (Statistical Methods), Stat. 311 (Statistical Methods), or C. Med. 311 (Biostatistics), is strongly recommended.

Other courses to complete 36 semester hours in the student's area of concentration are selected by the student with the help of the adviser. Students may select courses in departments in schools other than the School of Medicine.

All students must complete a minimum of 18 semester hours in a science related to medical technology including Seminar (3 hr.) and Problem Study (6 hr.).

All students must rotate for orientation purposes through all sections of the University Hospital Clinical Laboratories to include microbiology, hematology, chemistry, immunochemistry, and histopathology for a minimum of two days in each laboratory or a total of ten days.

In addition, at the discretion of the student's adviser, other requirements in teaching, supervision, and administration may be necessary.

The adviser works out with the student a plan of study for the entire graduate program. This plan is usually made at the end of the first semester of the student's graduate study. A copy of this "plan of study" is signed by the adviser and student and sent to the Medical Technology Office to be put in the student's file.

Examinations

A final written comprehensive examination in the major and minor interest areas is given approximately one month before the oral defense.

An oral defense of the problem is given one month after submission of the Problem Study in its final form to the student's Graduate Committee.

Requirements for Degree

All requirements for the master of science degree, as outlined in the WVU *Graduate Catalog*, must be fulfilled. These requirements can be fulfilled in three semesters of full-time work, but ordinarily at least four semesters are required for completion of the degree requirements.

Degree candidates must have a 3.0 grade-point average and must have removed all incomplete grades and deficiencies.

All students must complete a problem study (see M. Tec. 497).

Medical Technology (M. Tec.)

Professors Holter and Moore; Associate Professors Gutman, Henderson, and Sharpe; Instructor Blehschmidt.

1. *Orientation to Medical Technology*. I, II. 2 hr. Introduction to the profession of medical technology and the clinical laboratory specialties. (*Pass-Fail grading only.*)
100. *Medical Technology*. 4 hr. PR: Acceptance into the Medical Technology Program as a first-year student or consent by Director. Clinical laboratory procedures employed in patient diagnosis in the areas of blood coagulation, blood banking, hematology, and clinical microscopy.
101. *Medical Technology*. II. 4 hr. Continuation of M. Tec. 100.
200. *Orientation*. I, II, S. No credit. (For senior students.) Principles and practices of medical technology in relation to the hospital and clinics. (*Pass-Fail grading only.*)
202. *Laboratory Math, Quality Control, Computers*. II. 2 hr. Lectures and practice sessions in laboratory mathematics, techniques, and calculations in quality control and an introduction to computers to include terminology and basic operation.

210. *Clinical Laboratory Mycology*. II. 1 hr. How to isolate and identify the more commonly encountered pathogenic fungi as well as those fungi frequently seen as laboratory contaminants. The course will include basic taxonomy, isolation procedures, and identifying characteristics.
220. *Immunohematology and Blood Banking*. I, II. 2 hr. Lectures on immunohematology and blood banking theory and practice.
221. *Immunohematology and Blood Banking Laboratory*. Arranged. 5 hr. Clinical laboratory practice in blood banking procedures. Emphasis on procedures required for collection and preparation of blood and blood components for transfusion, special techniques, antibody studies, and problem solving.
230. *Clinical Chemistry*. I, II. 2 hr. Lectures on principles of clinical chemistry procedures; their clinical significance and implication in diagnosis.
231. *Clinical Chemistry Laboratory*. Arranged. 5 hr. Practice in the clinical chemistry laboratory.
240. *Clinical Hematology*. I, II. 2 hr. Lectures in hematologic theory and practice.
241. *Clinical Hematology Laboratory*. Arranged. 5 hr. Application of hematological principles to laboratory medicine. Emphasis on routine and specialized procedures, evaluation and problem solving.
250. *Clinical Microbiology*. I, II. 2 hr. Presentation and discussion of current methodology employed in the processing of clinical microbiology specimens, isolation and identification of pathogenic microorganisms, and determination of antimicrobial sensitivities.
251. *Clinical Microbiology Laboratory*. Arranged. 5 hr. Practice in the clinical microbiology laboratory to include isolation and identification of microorganisms; processing of specimens and antibiograms. Includes experiences in pathogenic mycology and parasitology.
260. *Instrumentation*. I, II, S. 2 hr. Principles of clinical laboratory instrumentation for medical technologists including principles of operation, maintenance, and troubleshooting.
265. *Laboratory Management*. I, II. 2 hr. Laboratory organization, economics, ethics, and records.
270. *Clinical Microscopy*. I, II, S. 1 hr. PR: Senior standing in Medical Technology or consent. Lecture to cover the screening of body fluids (urine, gastric juices, etc.) for abnormalities and pregnancy testing.
271. *Clinical Microscopy Laboratory*. I, II, S. 1 hr. PR: Senior standing in Medical Technology, or consent. Laboratory practicum in urinalysis, gastric analysis, pregnancy tests, and other procedures.
275. *Medical Relevance of Laboratory Analysis*. 1 hr. PR: Senior status in Medical Technology. Case presentations of pathologic entities encountered in the clinical laboratory. (Pass/Fail grading.)
277. *Principles of Staining*. I, II, S. 2 hr. Principles, mechanisms, and methodologies of stains and dyes used in clinical laboratories including evaluation and troubleshooting.
280. *Clinical Immunology*. I, II, S. 3 hr. Lectures and laboratory practice in the principles of clinical immunology and their relationship to clinical laboratory technology.
291. *Ethics, Research, Educational Methodology*. II. 2 hr. Lectures in ethics, techniques of research, and techniques of educational methodology for medical technology students.

300. *Seminar. I, II, S. 1 hr.* Seminars include topics in laboratory management and education in medical technology, and timely topics. Minimum of 3 semester hours to include all three topics is required of all graduate students in the medical technology program.
491. *Advanced Study. I, II, S. 1-6 hr.* Investigation in advanced subjects which are not covered in regularly scheduled courses. Study may be independent or through specially scheduled lectures.
497. *Research. I, II, S. 1-15 hr.* Student is required to pursue study on a problem in the student's area of concentration. This study is reported in a thesis-style manuscript. For this study and report, the student registers in M. Tec. 497. Total number of hours earned in M. Tec. 497 is determined by the student's adviser. As many as 9 semester hours may be taken during one semester or, by arrangement with the adviser, credit hours may be taken over several semesters. In the final compilation for degree requirements, only 6 semester hours in M. Tec. 497 will be counted toward fulfillment of the 36 required semester hours for the degree even though the student may have registered for as many as 15 hours in M. Tec. 497.

Division of Physical Therapy

The Division of Physical Therapy, under the auspices of the School of Medicine, offers the final two years of a baccalaureate program leading to a degree in physical therapy.

The first two years of study may be completed in WVU's Pre-Physical Therapy Program, or in any other accredited institution which offers courses comparable to the admission requirements of the Division of Physical Therapy. To be eligible for a degree, a student must complete the final two years of the curriculum at WVU.

Admission to the third year is based upon 62 or more credit hours of study which satisfy the University Liberal Studies Program requirements and the prerequisites, or their equivalent, of the Division of Physical Therapy. *Registration in the first two years does not automatically assure the student a place in the junior class. A student will be accepted on a competitive basis and selection will be based on scholastic standing and on those personal characteristics which are desirable in physical therapists.*

The student must satisfactorily complete an eighteen week period of clinical internship before the awarding of the baccalaureate degree. Expenses incurred during this time (room, board, and transportation) must be borne by the student. A Certificate of Proficiency in Physical Therapy then will be awarded which entitles the graduate to seek membership in the American Physical Therapy Association and to become eligible for state licensure for the practice of physical therapy. A physical therapist can practice professionally only after having passed the state board examination in the state where employment is desired.

Admission to Professional Program

A personal interview with the Admissions Committee is required. The Admissions Committee will advise the applicant of the time and place for the interview. Only those students with at least a 2.6 cumulative grade-point average and a 2.75 (4.0 scale) average in prerequisites will be interviewed. Applicants must complete all University Liberal Studies Program requirements and physical therapy prerequisites by the end of the Spring term in which they apply. A grade of C or better must be earned in all of the physical therapy prerequisites. In addition to satisfying the prerequisite and University Liberal Studies Program requirements, the applicant to physical therapy

must also have volunteer or work experience in physical therapy and scores on the Allied Health Professions Admission Test (given at major universities), which must be submitted to the Division. Individuals who do not meet these requirements, but who believe that extenuating circumstances justify admission, may petition the Admissions Committee for an interview. Reasons for special consideration of the applicant should be clearly stated in the petition.

Official enrollment forms are available at the office of the Assistant to the Director, Admissions and Records, WVU Medical Center, Morgantown, WV 26506, beginning December 1 of each year. Application forms should be returned no later than March 1 in the year admission is desired.

Because of the large number of applicants and limited openings available in WVU Medical Center programs, preference in admissions is given to qualified West Virginians, although outstanding nonresident applicants who have attended West Virginia schools or colleges or have other State ties will be considered.

Academic Standards

Clinical Education Program

Students must satisfactorily complete the pre-internship clinical education program. During this time students will be expected to defray any and all costs of the program. The Clinical Internship Program is scheduled in the summer of the Senior Year. Before the student is allowed to leave for clinical internships, the student must have completed all academic requirements of the program satisfactorily; have good health and a full health insurance policy in effect for the entire internship period; be prepared to defray the costs of tuition, travel, room and board, and any incidental costs.

Promotions and Dismissals

A. Students admitted to the Physical Therapy professional program must register for all prescribed courses for each term.

B. In order to progress in the professional sequence, a course grade of P (pass) or a C must be earned in all required courses and in each unit of a course when a course is designed with unit exams. Students earning a grade of D or F in a course will not be able to progress and may be dismissed from the program.

C. A student who is unable to complete a course may, at the discretion of the instructor, receive a grade of Incomplete (I). The grade I must be changed to P (pass) or C (or above) by mid-term of the next term in order for the student to progress in the program.

D. A student who does not attain a C or above in each course unit or module, may at the discretion of the instructor, be able to remediate the unit(s) not satisfactorily completed.

1. If the decision is to provide for some form of remediation, the student will have one opportunity to complete the work at a C or better level by the beginning of the next term. If, at the completion of this work, a C is not attained, the student will be dismissed from the program and W's (withdraw) will show on his/her transcript for all courses given in the term in question.
2. If the decision is not to provide remedial work for the student, he/she will be dismissed from the program at that time and receive W's for all courses required in that particular term. The decision not to provide remedial work shall be documented by the course instructor and Academic Standards Committee within the Division.

E. Students must maintain a grade-point average of 2.5 in all required courses of the physical therapy professional program. A student whose grade-point average in the program falls below 2.5 will be dismissed. If the student has no grades of D or F, he/she may petition the Division Committee on Academic Standards to be placed on probation for the following term. If probation is granted, the program grade-point average must be raised to 2.5 or above by the end of the probationary term or the student will be dismissed from the program.

F. The Division of Physical Therapy reserves the right to suspend or dismiss any student who does not perform at an overall level considered satisfactory for patient care.

Curriculum Plan

This curriculum is designed to satisfy the course requirements for admission to the professional portion of the curriculum in Physical Therapy offered by the School of Medicine. The University Liberal Studies Program requirements must be satisfied, and a total of 62 hours is required for admission to the first professional year. This suggested curriculum plan allows latitude in career choice and is basically compatible with various curricula in the arts and sciences.

First Year

First Semester	Hr.	Second Semester	Hr.
Math. 3 or 14	3 or 4	Engl. 1	3
Chem. 15**	4	Chem. 16**	4
Biol. 1**	4	Biol. 2**	4
Elective (Cluster A)	3	Math. 4	3
Orientation	1	Elective (Cluster A)	3
Psych. 1*	3		
	<u>18 or 19</u>		<u>17</u>

Second Year

First Semester	Hr.	Second Semester	Hr.
Engl. 2	3	Stat. 101**	3
Psych. 141**	3	Phys. 2**	4
Biol. 61 (lec.)*	3	Nutr. 71**	3
Phys. 1**	4	Electives	9
Cluster B	<u>3</u>		
	16		<u>19</u>
GPE	<u>1</u>		
	17		

Third Year

First Semester	Hr.	Second Semester	Hr.
Path. 128	2	Anat. 102	3
Anat. 101 (lab only)	2	Anat. 308	2
Physi. 241	4	Ph. Th. 110	3
Ph. Th. 111	4	Ph. Th. 112	3
Ph. Th. 117	1	Ph. Th. 114	2
Ph. Th. 120	3	Ph. Th. 116	1
	<u>—</u>	Ph. Th. 118	<u>3</u>
	16		17

*Electives: Students are required to satisfy University LSP requirements. In addition, these electives are suggested: Biol. 166; Psych. 242, 243, 245, 282; Comm. 11, 106, 221.

**Courses required for admission to the Division of Physical Therapy.

Fourth Year

First Semester	Hr.	Second Semester	Hr.
Ph. Th. 271	4	Ph. Th. 270	4
Ph. Th. 273	4	Ph. Th. 272	2
Ph. Th. 275	3	Ph. Th. 274	3
Ph. Th. 277	2	Ph. Th. 276	3
Ph. Th. 279	4	Ph. Th. 278	5
Ph. Th. 281	1	Ph. Th. 282	1
	<u>18</u>		<u>18</u>

Summer

	Hr.
Ph. Th. 290	3-6

Courses of Instruction in Physical Therapy (Ph. Th.)

Professors Barnes, Burkart (*Director*), and Petronis; Adjunct Professor Nelson; Associate Professor Harris; Adjunct Associate Professors Erhard and Weaver; Assistant Professor Riegger; Adjunct Assistant Professor Nester; Instructor Pertko.

(Courses included in the physical therapy curriculum, but not listed here, may be found in the Basic Sciences section of this catalog.)

110. *Functional Anatomy*. II. 3 hr. The musculoskeletal system including biomechanics, principles of movement, and analysis of muscle and joint action. Normal and pathological gait.
111. *Physical Therapy Principles and Physical Agents*. I. 4 hr. PR: Biol. 1, 2; Chem. 15, 16. Lecture-laboratory introduction to physical therapy and orientation to patients. Safety procedures, gait training, and nursing procedures related to physical therapy. Theory and application of hydrotherapy, thermotherapy, cryotherapy, actinotherapy, massage, and ultrasound are presented.
112. *Cardiopulmonary Physical Therapy*. II. 3 hr. Correlation of anatomy, physiology, and pathology for treatment of cardiopulmonary conditions. Laboratory in cardiopulmonary evaluation, cardiac and pulmonary rehabilitation procedures, and respiratory treatment techniques. Lectures and case presentations in appropriate medical and surgical conditions.
114. *Medicine and Neurology*. II. 3 hr. PR: Ph. Th. 111. Lectures in medicine including dermatology, aging, neurology, pharmacology and vascular disorders.
116. *Clinical Education 1*. II. 1 hr. Students perform basic treatment procedures under the supervision of experienced therapists in various clinics. (*Graded Pass-Fail only.*)
117. *Seminar*. I. 1 hr. PR: Ph. Th. 111. Investigation of selected problems and issues.
118. *Basic Therapeutic Exercise*. II. 3 hr. Theory and clinical application of evaluation techniques including goniometry and manual muscle testing. The physiological basis and therapeutic application of passive and active forms of exercise are also studied. Emphasis is on progressive resistive and flexibility exercises.
120. *Human Development*. I. 3 hr. PR: Physical therapy students only. Presents human development across the life span with a special emphasis on neuromotor development. Topics include genetics, embryology, infancy, childhood, adolescence, adulthood, aging, and death.
270. *Organization and Management*. II. 4 hr. PR. Ph. Th. 275, 277, 281. Basic principles and philosophy of management and the organization with emphasis on interpersonal relationship within an organization, styles of tasks, conflict management, verbal and nonverbal communications, decision analysis and fiscal management.

271. *Electrotherapy and Electromyography*. I. 4 hr. Orientation to theory and application of electrical currents. Laboratory experience in electrical diagnosis and treatment procedures (including high and low volt stimulation, nerve conduction studies, and the use of electrical stimulation for pain control) is provided.
272. *Professional and Community Relationships*. II. 2 hr. Community health organization, including local, state, and national facets such as Medicare-Medicade and welfare. Planning based on chronic disease epidemiology. Role of physical therapist and other allied health personnel in providing comprehensive health care for chronically ill and geriatric population. Students become involved in care of the home-bound.
273. *Physical Evaluation*. I. 4 hr. PR: Ph. Th. 110, 118. Lectures, laboratory practice, and case study presentations are utilized to study the principles and techniques for examining the treatment disorders of the neuromusculoskeletal systems. An indepth study of extremity joint mobilization techniques is also provided.
274. *Orthopedic Physical Therapy*. II. 3 hr. PR: Ph. Th. 110, 118, 273. Continuation of Ph. Th. 273 format and is a continuation of that course. Evaluation and rehabilitation of mechanical disorders of the spine are emphasized together with physical therapy and orthopedic management of selected pediatric disorders.
275. *Professional Literature and Research*. I. 3 hr. Current literature method writing, statistics, and introduction to research methodology. A senior project is required.
276. *Elective Study*. II. 3 hr. Highly skilled techniques used in physical therapy are many and varied. It is beyond the scope of any baccalaureate program to offer such skill to every student in all areas. Therapists are beginning to specialize in certain areas. The student chooses a particular area and develops it to the student's fullest capabilities in the allotted time.
277. *Clinical Teaching*. I. 2 hr. Emphasis on the physical therapist fulfilling numerous teaching roles. Students develop skill and techniques in the facilitation of learning, objective writing, presenting information, A-V utilization, and development of evaluation tools for both clinical and didactic settings.
278. *Correlative Rehabilitation*. II. 5 hr. Lecture, case presentations, and laboratory practice concerning the pathology, evaluation, and treatment in the areas of spinal cord injuries, amputations, and burns. Underlying philosophy and principles of comprehensive care of the handicapped. Prosthetics, orthotics, bowel and bladder training, assistive and supportive devices, and wheelchair evaluations.
279. *Advanced Therapeutic Exercise*. I. 4 hr. Correlation of the basic principles acquired from study of gross anatomy, neuroanatomy, pathology, physiology, and functional anatomy with the scientific application of bodily movement. In-depth study of types and desired effects of exercise and methods and techniques primarily concerned with neuromuscular re-education. Laboratory practice consists of application of specific neurophysiological techniques to patients presented with various neuromuscular problems.
281. *Clinical Education 2*. I. 1 hr. Continuation of Ph. Th. 116. The student's participation in treatment programs is increased and enlarged to include basic testing and evaluation procedures. (*Graded Pass-Fail only.*)
282. *Clinical Education 3*. II. 1 hr. Supervised experience in more specialized procedures and testing techniques and patient program design. (*Graded Pass-Fail only.*)
290. *Clinical Education 4*. S. 1-12 hr. Three full-time summer affiliations of six to eight weeks each in a variety of extramural facilities, such as a general hospital, children's facilities, rehabilitation services, and public health. (*Graded Pass-Fail only.*)

School of Nursing

Philosophy

Nursing shares with other disciplines the overall purpose of the health care system in assisting clients to attain, regain, and retain optimal health. Specifically, the purpose of nursing is to assist clients wherever they are, in the performance of those activities contributing to optimal health (or a peaceful death) the clients would normally initiate and perform unaided if they had the necessary strength, knowledge, and motivation.

The practice of nursing embodies a holistic concept of man. This concept is derived from a synthesis of general education and nursing education. General education is that component of learning derived from the whole of knowledge and truth that is not specialized or particular to any field but which supports many fields. It provides the individual with basis for moral grounding, with a knowledge of man and the universe, a basis for understanding of self and others, as well as an appreciation of the past, an understanding of the present, and the process for predicting the future. These primary concepts form a foundation for subsequent learning in the applied discipline of nursing. Nursing education is that process by which the nurse continually synthesizes the conceptual base, while developing and applying one's intellectual, interpersonal, and technical skills in assisting individuals, families, and communities to meet their health needs. This process unifies practice, teaching, and research in the advancement of nursing.

The faculty believes that man is a physiological, psychological, social and spiritual being, capable of rational thought and action. Throughout the life span, one progresses through developmental stages and continually strives to meet basic human needs in a uniquely patterned way. Within the context of socio-cultural backgrounds, individuals perceive and respond to stimuli as integrated wholes. Individuals maintain basic human integrity through the process of dynamic continuous interaction with their internal and external environment.

Man is a member of innumerable systems within a total society which is organized to meet client recognized needs, with the family being the primary system for meeting health needs. Society organizes health care systems to assist the family in meeting the health needs of its members. Each person has the right of access to those resources which will assist in attaining and maintaining optimal states of health.

Health is a dynamic state which constantly fluctuates among varying degrees of wellness and illness. Health states embody physiological, psychological, social, and spiritual dimensions. The optimal state of health which can be attained and maintained is unknown but is influenced by genetic endowment, the environment in which individuals live, and their ability to cope with actual and potential stresses.

The faculty believes learning is a life-long process, enhanced by a climate of personal acceptance of the learner as an integrated being with internal motivation, attributes, dignity, and worth. Learning is a progressive and cumulative experience resulting in changed behavior which becomes useful in subsequent learning situations.

The teaching/learning process includes opportunities for teacher-student interaction in setting goals, selecting and evaluating learning experiences, and in appraising instructional methods and student progress. The process of

education takes place in an atmosphere characterized by a democratic spirit in which student and faculty can share learning experiences. This climate encourages the development of intellectual curiosity, systematic inquiry, the capacity for self-direction, and a sense of commitment to continued learning. Through this educative process, faculty and students continue to develop as informed persons responsible for contributing to the improvement of the profession and society through on-going creative efforts.

Undergraduate education in nursing prepares persons capable of beginning professional nursing practice and provides foundation for graduate education in nursing. Upon completion of the baccalaureate curriculum, the nurse can practice in a variety of settings and with clients of various developmental levels. The graduate uses process skills to maintain, restore, or improve health states of clients, and uses leadership theory to effect change. The baccalaureate graduate uses a conceptual base to evaluate and modify nursing role in relationship to client needs and expectations, and is prepared to support efforts in expanding nursing knowledge.

Graduate education in nursing prepares clinicians capable of leadership in developing and expanding nursing knowledge, skills, and practice competencies in light of societal needs. Preparation at the master's level provides the opportunity for the student to demonstrate self-direction and effective interactions with other health professionals in improving nursing practice and the health care delivery system. The master's graduate is able to provide quality health care in a variety of settings while clarifying and redefining nursing roles.

Programs Offered

The School of Nursing offers undergraduate and graduate programs of study leading to the B.S.N. and M.S.N. degrees in Morgantown, Charleston, and selected extension sites. Currently, the complete basic program leading to the Bachelor of Science degree in nursing is only available in Morgantown. A limited number of basic students may complete their junior or senior years in Charleston, based upon available space. The program track for R.N.'s, which leads to the B.S.N. degree, is available at all sites.

The School of Nursing also offers the basic B.S.N. degree program in consortium with Glenville State College through a program offered on the Glenville and Charleston campuses. Further information on this program is available from Glenville State College or the School of Nursing.

Admission—Basic Program

To qualify for admission to the School of Nursing basic program, a candidate must have completed one year of prescribed courses in an accredited college or university. Applicants are eligible for review by the Admissions Committee after completion of one full semester of course work in an accredited college or university. The prescribed courses include subjects such as: chemistry, 8 hours; English composition, 3 hours; introductory sociology, 3 hours; introductory psychology, 3 hours; nutrition, 3 hours; life span growth and development, 3 hours; core subjects, biology, 4 hours; college algebra, 3 hours; and/or electives.

A dominant factor in the number of students admitted is the limitation of space. Currently, the maximum number of basic students which can be accommodated is 72. If the number of qualified applicants exceeds the number

which can be accommodated, primary consideration is given to applicants from West Virginia.

Application forms for the School of Nursing are distributed by the Office of Admissions and Records at the Medical Center after December 1. Application for admission to the School of Nursing must be made by February 15 of the year the candidate wishes to be admitted. The application may be presented in person or mailed directly to the Assistant Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. An application fee of \$10.00, payable to West Virginia University, must accompany the completed application. The deadline for receipt of transcripts and other required materials is February 15.

The applicant's academic record is the major factor in the decision on admission. The West Virginia resident must have a grade-point average of 2.5 or above, on a scale of 0.0 to 4.0 on all college work attempted, to qualify for consideration. Residents of other states must have an average of 3.2 or above on all college work attempted to be considered. West Virginia applicants whose grade-point average falls between 2.3 and 2.5 may petition in writing to the Admissions Committee for special consideration. Out-of-state residents with a grade-point average between 3.0 and 3.2 also may petition. Such a petition must be submitted along with the application and must clearly state why the applicant should receive special consideration.

The review of applicants takes approximately two months. The students are notified by mail after review of all applicants is completed. Two weeks after receipt of the letter of acceptance, the student must send a letter stating acceptance of the position to the Assistant Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506. A \$50.00 advance deposit must accompany the letter. This deposit is applied toward the registration fees for the first semester. The deposit is nonrefundable should the student decide not to enter after formally accepting a place in the class.

Admissions—Transfer Students to Basic Programs

A student with nursing credit from an accredited college or university is eligible for admission by presenting a record of courses comparable to those required in this curriculum and meeting other School of Nursing admission requirements. Application for transfer students should be initiated three months prior to the beginning of the semester in which they wish to begin nursing courses. Transcripts and other required materials must be received no later than two months before the start of the entering semester. Apply to: Assistant Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506 specifying request for admission as a transfer student.

Program for Registered Nurse Students

The School of Nursing offers graduates of diploma and associate degree nursing programs the opportunity to complete requirements for the baccalaureate degree in nursing at the Morgantown campus, at the Charleston Division of the WVU Medical Center, and by extension at Shepherdstown, Parkersburg, and Beckley. General education credits earned in any accredited college or university may be applied toward the fulfillment of the degree requirements, if the course work is comparable. The continued offering of nursing courses at the various extension sites is dependent upon faculty resources and a minimum enrollment of 15 students in each nursing course.

Registered Nurse applicants are admitted directly to the School of Nursing. Acceptance and placement in the program is dependent upon the individual's academic record and upon the number of spaces available in the program. The license to practice nursing and a grade-point average of 2.5, or better, on all college work attempted, are required. Registered Nurses whose grade-point average falls below 2.5 may petition in writing to the Committee on Admissions for special consideration. A license to practice nursing as an R.N. in West Virginia is required for enrollment in all clinical nursing courses.

A minimum of 30 hours of general education courses that meet the University Liberal Studies Program and School of Nursing requirements should be completed before enrollment in the first nursing courses, Nursing 100, Basic Concepts in Professional Nursing and Nursing 101, Transitional Practicum. It is recommended that the 30 hours be selected from the suggested freshman and sophomore courses listed in the "Suggested Plan of Progression" under the section on curriculum. Special attention should be given to the physical, biological, and psycho-social sciences. Completion of additional general education courses beyond the 30 hours is recommended if the R.N. student wishes to carry a part-time course load. The second semester of chemistry may be waived if the applicant has successfully completed comparable laboratory science courses and meets other science requirements (Anatomy, Physiology, Microbiology, and Pharmacology).

All R.N. students are required to enroll in Basic Concepts of Professional Nursing (Nursing 100) and concurrently in Transitional Practicum (Nursing 101). The purpose of these courses is to facilitate transition into baccalaureate nursing. Special emphasis is placed on socialization into role and expectations of this role according to the School of Nursing's conceptual framework.

Graduates of associate degree programs establish lower-division nursing credit by the transfer of hours. Graduates of diploma establish sophomore-level credit in nursing by successful completion of a comprehensive lower-division challenge examination.

Upon successful completion of Nursing 100 and 101, establishment of sophomore nursing credit, and completion of the general education course requirements for the first and second years of the program listed under the section titled, "Suggested Plan of Progression," the R.N. student is eligible for the advanced placement experience (APE). APE is a conceptual approach to establishing credit for junior nursing courses. The experience results in an individualized diagnostic analysis of learning needs and completion of prescribed learning to meet these needs. The prescriptive component of the advanced placement, usually completed during the same semester as the APE, forms the basis for continued learning in senior courses. Difficulty with APE may require special work or enrollment in sophomore or junior course work. Generally, APE is followed by enrollment in senior nursing courses.

Senior nursing courses must be taken by enrollment. Successful completion of junior level advanced placement experience and general education requirements must be met prior to enrollment.

Requests for application forms for the Morgantown Campus or extension sites should be addressed to the Assistant Director of Admissions and Records, WVU Medical Center, Morgantown, WV 26506.

Application forms for the Charleston Division or Beckley extension site may be obtained from the Student Affairs Coordinator, Charleston Division, WVU Medical Center, 3110 MacCorkle Ave., S.E., Charleston, WV 25304.

Further information about the program may be obtained from Chairperson, Sophomore Academic Unit, School of Nursing, WVU Medical Center, Morgan-

town, WV 26506; or Chairperson, Charleston Academic Unit, School of Nursing, WVU Medical Education Building, 3110 MacCorkle Ave., S.E., Charleston, WV 25304.

Academic Standards and Graduation Requirements— B.S.N. Students

The student must: (1) maintain a cumulative grade-point average of 2.0 or better in all work attempted; (2) pass all graded nursing courses with a grade of C or better; and (3) pass all required courses.

A student who fails to meet the requirements listed above must present to the adviser an acceptable plan for meeting the requirements. This plan must be within the policies and standards set by the Committee on Academic Standards.

The degree of Bachelor of Science in Nursing (B.S.N) is conferred upon completion of a minimum of 136 hours.

Fees, Expenses, Housing, Transportation

Students registering pay the fees shown in the WVU Medical Center fees charts, plus special fees and deposits as required. Fees are subject to change without notice.

Expenses of students attending WVU vary widely according to their course of study and their individual tastes.

Students are expected to provide their own equipment and instruments for the clinical courses.

Information concerning financial assistance and application forms may be obtained by visiting or writing the Financial Aid Office, Basic Sciences Building, WVU Medical Center, Morgantown, WV 26506. Telephone 304/293-3706.

The University Housing and Residence Life Office, G-18 Towers (phone 304/293-3621), provides information concerning University-owned housing. The Student Life Office in Moore Hall provides information concerning privately owned, off-campus housing, (phone 304/293-5611).

Some clinical experiences require the student to travel in a multi-county area. Each student is responsible for providing her/his own transportation.

Curriculum

The conceptual framework of the WVU School of Nursing is based on four concepts. These are man, health, environment, and process.

Man assumes many roles in life. In nursing these roles are specific yet interdependent. *Man*-role is conceived as either that of the man-nurse or the man-client. When man in the client role and man in the nurse role come together for the purpose of the nurse assisting the client to achieve *health*, the *process* becomes operational. *Process* is the means by which the goal is attained. The process between man-nurse and man-client takes place in and influences a certain *environment*. On the other hand, the environment influences process, man-nurse, man-client, and health in many ways.

Thus, the curriculum design for both undergraduate and graduate programs is derived from basic beliefs about the major concepts and from beliefs about learning and holism. In essence, a framework is initially provided to identify the core concepts and their relationships. This framework becomes the student's vehicle or mechanism through which added knowledge can be organized and syntheized, generating new ideas.

SUGGESTED PLAN OF PROGRESSION

FIRST YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Chem. 11	4	Chem. 12	4
Psych. 1	3	Engl. 1	3
Soc. & A. 1	3	Biol. 2	4
HN&F 71	3	Psych. 141	3
Cluster A or Math. 3	3	Cluster A or Math. 3	3
	<hr/> 16		<hr/> 17

SECOND YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Nsg. 80	4	Nsg. 75	2
Nsg. 81	3	Nsg. 82	4
Anat. 101	4	Nsg. 83	3
M. Bio. 26	4	Physi. 141	4
Engl. 2	3	Pcol. 160	3
	<hr/> 18		<hr/> 16
Nsg. 100 (R.N.s only)	4		
Nsg. 101 (R.N.s only)	2		

SUMMER BETWEEN SECOND AND THIRD YEAR

	<i>Hr.</i>
Nsg. 180	3
Nsg. 181	3
	<hr/> 6
(Basic Students only)	

THIRD YEAR

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Nsg. 182	4	Nsg. 184	4
Nsg. 183	5	Nsg. 185	5
Nsg. 175 or Stat. 101	2-3	Nsg. 175 or Stat. 101	2-3
Cluster A/elective	3-6	Cluster A/elective	3-6
	<hr/> 14-18		<hr/> 14-18

(Advanced Placement Experience for Junior Level Nursing Courses
available for the R.N.s) 20 credit hours

FOURTH YEAR*

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Nsg. 270	2	Nsg. 270	2
Nsg. 284	3	Nsg. 275	2
Nsg. 281	2	Nsg. 282	2
Nsg. 206	4	Nsg. 283	3
		Nsg. 205	4
OR		OR	
Nsg. 270	2	Nsg. 270	2
Nsg. 284	3	Nsg. 275	2
Nsg. 283	3	Nsg. 280	3
Nsg. 285	4	Nsg. 281	2
Cluster A/electives	3-6	Nsg. 286	4
	<hr/> 14-19	Cluster A/electives	3-6
			<hr/> 13-19

*The sequence of courses may vary from campus to campus.

Master of Science in Nursing (M.S.N.)

The School of Nursing offers a program of study leading to the Master of Science in Nursing (M.S.N.) degree to prepare the professional nurse for the role of nurse clinician in the advanced practice of nursing in primary health care. The program, which is administered by the Graduate Academic Unit, is offered at the University campus in Morgantown and through extension, serving the southern and northern regions of the state.

Designed in an integrative fashion, this non-traditional graduate program offers a curriculum model which allows students to enroll on a part-time or full-time basis. Throughout the curriculum, students are guided in the process of self-development aimed at pursuing excellence in scholarly and professional endeavors. The program allows flexibility within the basic curricular structure through the individualization of learning experiences, electives, thesis, and the opportunity to investigate an area of interest in advanced study.

The pattern of duration for the individual student study plan is determined in consultation with a faculty adviser and is based upon the student's background and goals. The program can be completed in four semesters of full-time study at the Morgantown campus, averaging a load of 9-12 credit hours per semester.

The program is accredited by the National League for Nursing.

Admission Requirements

The applicant must:

1. Meet the admission requirements of graduate education at West Virginia University.

2. Have completed a baccalaureate program in nursing which is accredited by the National League for Nursing (NLN). Applicants with a baccalaureate degree from nursing programs without NLN accreditation are required to take the NLN Comprehensive Achievement Test for Baccalaureate Nursing Students, Form 3113, and will be considered on an individual basis.

3. Have completed a course in introductory statistics (3 credit hours).

4. Provide the following:

a. Statement of philosophy of nursing and professional goals.

b. Letter of recommendation from each of the following: head of undergraduate nursing program, employer, and a colleague.

c. Evidence of a current professional nursing licensure in at least one state.

5. Have an interview with a Graduate Academic Unit faculty member.

Five parameters are used for review of applicants: (1) academic achievement; (2) residency/employment; (3) professional experience; (4) career goals; and (5) recommendations. WVU School of Nursing is an equal opportunity/affirmative action institution.

Once admitted, the student is assigned to a faculty adviser who guides the student in curricular and academic matters. Enrollment in nursing courses is based upon readiness, availability of space, and other essential resources.

The application process should be completed by January 1 for summer (May) enrollment; and March 1 and August 1 for fall and spring enrollment, respectively. Class sizes are limited, based on available faculty resources and space.

Application Process

Applicants need to complete the following steps in order to be considered for admission:

1. Complete two application forms as indicated and return to the appropriate offices to avoid unnecessary delay in the review process.
 - a. Application for admission to Graduate Studies—To be returned with a \$20.00 nonrefundable service fee to: Office of Admissions and Records, West Virginia University, P.O. Box 6009, Morgantown, WV 26506-6009.
 - b. Application for admission to the Master of Science in Nursing Program—To be returned to: Chairperson, Graduate Academic Unit, WVU School of Nursing, Morgantown, WV 26506.
2. Request an official transcript of records from each college or university attended. Transcripts and records should be sent directly to the WVU Office of Admissions and Records.
3. Send three recommendation letters directly to the Chairperson of the School of Nursing Graduate Academic Unit.
4. Participate in an interview with a faculty member teaching in the graduate program. The interview is for the purpose of verifying application materials, reviewing admission criteria, identifying deficiencies and transferable credits and, where possible, projecting a tentative plan of study. It is expected that the applicant will take an active role in the interview process to be informed about the basis for the admission criteria.

Degree Requirements

1. Completion of 42 semester credit hours, including 30 hours (Master's Paper Option) to 33 hours (Thesis Option) in nursing and 9 hours of non-nursing electives. The required non-nursing electives are restricted to 3 hours in computer utilization and 6 hours of humanities and/or social sciences. Students opting for a master's paper must complete an additional 3 hours of electives by advisement.

2. Completion of a Thesis (6 hours) or a Master's Paper (3 hours).

3. Achievement of an overall academic average of at least a B in all work attempted in the master's program. The grade C in two nursing courses will require a faculty review of the student's program progression.

4. Removal of all conditions, deficiencies, and incomplete grades.

Credit hours for courses in which the grade is lower than C will not count toward satisfying graduate degree requirements.

Students are expected to register for courses with letter grades (A, B, C), with the exception of electives which the student may opt to take with Satisfactory (S) or Unsatisfactory (U) grades, subject to the approval of the adviser.

M.S.N. Curriculum

<i>Nursing Theory, Practice, and Research (30-33 hours)</i>	Hr.
Nsg. 300—Advanced Nursing: Primary Health Care 1	3
Nsg. 301—Advanced Nursing: Primary Health Care 2	3
Nsg. 302—Advanced Nursing: Primary Health Care 3	3
Nsg. 310—Advanced Nursing Practice 1	3
Nsg. 311—Advanced Nursing Practice 2	3
Nsg. 312—Advanced Nursing Practice 3	3
Nsg. 370—Theories in Nursing	3
Nsg. 373—Research Process and Methods in Nursing	3
Nsg. 400—Advanced Nursing Practice 4	3
Nsg. 497—Research (Master's Paper/Thesis)*	3-6

*Students electing the master's paper option are required only 3 hours of Nsg. 497.

Electives (9-12 hours)

Thesis Option:

Cognates (Non-nursing)	9
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Master's Paper Option:

Cognates (Non-nursing)	9
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Electives by advisement	3
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Total	42
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Sample Progression Plan (Full-Time Study)

Semester I	Hr.	Semester II	Hr.	Semester III	Hr.	Semester IV	Hr.
Nsg. 300	3	Nsg. 301	3	Nsg. 302	3	Nsg. 400	3
Nsg. 310	3	Nsg. 311	3	Nsg. 312	3	Nsg. 497	3
Nsg. 370	3	Nsg. 373	3	Nsg. 497	3	Elective	3
		Elective	3	Elective	3		
	9		12		12		9

TOTAL: 42 hours

Courses of Instruction in Nursing (Nsg.)

(For Nursing Majors Only)

75. *Issues of Nursing*. II. 2 hr. PR: Sophomore standing or consent. Overview of past, present, and future issues of the nursing profession. Emphasizes a historical review of the nursing literature.
80. *Concepts of Nursing 1*. I. 4 hr. PR: Sophomore standing or consent. Conc.: Nsg. 81. Introduces concepts, principles, and theories of nursing practice in relation to the health promotion with individuals and their families. Includes intellectual and interpersonal arts and psychomotor skills basic to nursing practice.
81. *Practicum 1*. I. 3 hr. PR: Sophomore standing or consent. Conc.: Nsg. 80. Selected experiences for the application of the basic concepts necessary for health promotion. Includes experience with individuals of all ages and their families. (Graded as Pass-Fail.)
82. *Concepts of Nursing 2*. II. 4 hr. PR: Nsg. 80, 81 or consent. Conc.: Nsg. 83. Concepts, principles, and theories of nursing practice with individuals experiencing minor deviations from wellness. Includes adapting mechanism necessary to regain health.
83. *Practicum 2*. II. 3 hr. PR: Nsg. 80, 81 or consent. Conc.: Nsg. 82. Selected experiences in which the nurse assists clients to cope with wellness and minor deviations from wellness. Includes experience with individuals of all ages and their families. (Graded as Pass-Fail.)

100. *Basic Concepts of Professional Nursing*. I. 4 hr. PR: West Virginia R.N. licensure or consent. Concepts and principles related to the professional nurse role. Focuses on the nurse role and role transition plus concepts in the School of Nursing curriculum.
101. *Transitional Practicum*. I. 2 hr. Conc.: Nsg. 100. Selected clinical experiences designed to help students identify strengths and remedy weaknesses in applying professional nursing concepts to client care. (*Graded as Pass-Fail.*)
175. *Issues of Nursing* 2. I, II. 2 hr. PR: Nsg. 75 or consent. Issues of nursing practice. Emphasizes related theories and research.
180. *Concepts of Nursing* 3. S. 3 hr. PR: Junior standing or consent. Conc.: Nsg. 181. Concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and moderate deviations from wellness. Builds on past intellectual and interpersonal arts and psychomotor skills.
181. *Practicum* 3. S. 3 hr. PR: Junior standing or consent. Conc.: Nsg. 180. Selected experiences for the application of concepts of nursing practice with individuals and families experiencing acute health care needs and moderate deviations from wellness. Includes experience with individuals of all ages. Emphasizes the practice of psychomotor skills. (*Graded as Pass-Fail.*)
182. *Concepts of Nursing* 4. I. 4 hr. PR: Nsg. 180, 181 or consent. Conc.: Nsg. 183. Concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and major deviations from wellness.
183. *Practicum* 4. I. 5 hr. PR: Nsg. 180, 181 or consent. Conc.: Nsg. 182. Selected experiences for the application of concepts of nursing practice with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages. (*Graded as Pass-Fail.*)
184. *Concepts of Nursing* 5. II. 4 hr. PR: Nsg. 182, 183 or consent. Conc.: Nsg. 185. Continuation of concepts, principles, and theories of nursing practice associated with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages.
185. *Practicum* 5. II. 5 hr. PR: Nsg. 182, 183 or consent. Conc.: Nsg. 184. Selected experiences for application of concepts of nursing practice with individuals and families experiencing acute health care needs and major deviations from wellness. Includes experience with individuals of all ages. Emphasizes nursing care problems of increased complexity. (*Graded as Pass-Fail.*)
270. *Introduction to Nursing Research*. 2 hr. PR: Senior standing or consent, Stat. 101 or equivalent. Theory, principles, and concepts of the research process with application to nursing practice.
275. *Issues of Nursing* 3. II. 2 hr. PR: Senior standing or consent. Analysis of professional nursing issues in order to synthesize a professional philosophy of nursing.
280. *Concepts of Nursing* 6. I, II. 3 hr. PR: Senior standing or consent. Concepts, principles, and theories of professional nursing practice associated with individuals and/or families who are experiencing a critical, isolated health problem. Includes individuals of all ages. Introduces specialized psychomotor skills.
281. *Practicum* 6. I, II. 2 hr. PR: Senior standing or consent. PR or Conc.: Nsg. 280. Selected experiences for the application of concepts of nursing practice with individuals and/or families experiencing a critical, isolated health problem. Includes experience with individuals of all ages. Emphasizes the practice of specialized psychomotor skills. (*Graded as Pass-Fail.*)
282. *Concepts of Nursing* 7. I, II. 2 hr. PR: Senior standing or consent. Concepts, principles, and theories of professional nursing practice associated with individuals and/or families within the health care delivery system. Includes individuals of all ages.

283. *Practicum 7. I, II. 3 hr. PR: Senior standing or consent. PR or Conc.: Nsg. 282.* Selected experiences in the application of concepts of nursing practice with individuals and/or families within the health care delivery system. Emphasizes a comprehensive study of a health concern in a defined population. (*Graded as Pass-Fail.*)
284. *Concepts of Nursing 8. I. 3 hr. PR: Senior standing or consent.* Analysis and synthesis of nursing role. Emphasizes theories of leadership and change, and environmental factors affecting health care delivery.
285. *Practicum 8. I, II. 4 hr. PR: Senior standing or consent. PR or Conc.: Nsg. 284.* Selected experiences in the practice of professional nursing in primary and secondary settings. Focus is on the incorporation of processes in the care of clients and the analysis of health care. (*Graded as Pass-Fail.*)
286. *Practicum 9. I, II. 4 hr. PR: Senior standing or consent. PR or Conc.: Nsg. 284.* Selected experiences in the practice of professional nursing in acute or critical-care settings. Focus is on the incorporation of processes in the care of clients and the analysis of health care. (*Graded as Pass-Fail.*)
300. *Advanced Nursing: Primary Health Care 1. I, II, S. 3 hr. PR or Conc.: Nsg. 370.* Analysis and synthesis of concepts in nursing and related sciences relevant to the development of a conceptual framework for nursing in primary health care. (*Emphasis on individual system.*)
301. *Advanced Nursing: Primary Health Care 2. I, II, S. 3 hr. PR: Nsg. 310. PR or Conc.: Nsg. 373.* Development of a conceptual model for nursing with emphasis on developing strategies to promote client health. (*Emphasis on family system.*)
302. *Advanced Nursing: Primary Health Care 3. I, II, S. 3 hr. PR: Nsg. 311.* Further development and/or refinement of a conceptual model for nursing with specific emphasis on planned change strategies and how these strategies impact health. (*Emphasis on community system.*)
310. *Advanced Nursing Practice 1. I. 3 hr. Conc.: Nsg. 300.* Advanced nursing practice focusing on applicability of concepts in students' developing conceptual framework. (*Emphasis on individual system.*)
311. *Advanced Nursing Practice 2. II, S. 3 hr. Conc.: Nsg. 301.* Advanced nursing practice focusing on development and application of nursing strategies within the context of the students' conceptual model. (*Emphasis on family system.*)
312. *Advanced Nursing Practice 3. I, S. 3 hr. Conc.: Nsg. 302.* Advanced nursing practice focusing on application and testing of students' conceptual model, identification of a health problem area within the practice setting, and preparation of a planned change strategy. (*Emphasis on community system.*)
370. *Theories in Nursing. I, S. 3 hr. PR: Graduate standing; consent.* Introduction to the structure and function of extant theories in nursing as a basis for developing a conceptual framework for nursing.
373. *Research Process and Methods in Nursing. II. 3 hr. PR: Nsg. 310, 370.* Study of the research process and methods for incorporation into students' conceptual model, practice and research in nursing.
400. *Advanced Nursing Practice 4. I, II. 3 hr. PR: Nsg. 312.* Collaborative practice focusing on the evaluation and modification of students' conceptual model for nursing and implementation of a planned change strategy. (*Emphasis on role synthesis.*)
491. *Advanced Study. I, II. 1-3 hr. PR: Graduate standing; consent.* In-depth study of topics related to current issues in primary health care. Study may be independent or through specially scheduled seminars.
497. A. *Research. I, II. 3 hr. PR: Nsg. 373 or Conc.: Nsg. 312; consent.* Refinement and implementation of research proposal to meet requirements for the master's thesis or completion of the master's paper.
497. B. *Research. I, II. 1-3 hr. PR: Nsg. 497.* Completion of master's thesis.

School of Pharmacy

Pharmacy was first offered at West Virginia University as a department in the School of Medicine, beginning in 1914. It was changed to the College of Pharmacy in 1936 and to the School of Pharmacy in 1958. In 1960, the School of Pharmacy changed from a four-year to a five-year program. The current pharmacy curriculum comprises three years of professional study preceded by a minimum of two years of study in an accredited college of arts and sciences.

The objective of the School of Pharmacy is to educate practitioners for current and future roles in the profession of pharmacy. To meet this objective, the curriculum provides the student with the scientific and technical knowledge and communication skills required to practice the profession and inculcates in the student a concept of the pharmacist's professional responsibilities as a health science practitioner and as a guardian of the public health.

Most pharmacy graduates enter practice in community or institutional pharmacies; however, many positions are also available in various government agencies and professional organizations. In addition, the pharmaceutical industry provides various opportunities in promotion, distribution, production, and research. Pharmacists are eligible for commissions in the armed forces and for positions with the U.S. Public Health Service. Pharmacists also may prepare for careers in teaching and research through graduate study.

WVU School of Pharmacy offers M.S. and Ph.D. programs in the Pharmaceutical Sciences. Students may specialize in pharmacy, pharmaceutics, pharmacognosy, pharmaceutical chemistry, pharmacy administration, and pharmacology and toxicology.

Accreditation

The School of Pharmacy is accredited by the American Council on Pharmaceutical Education. The council is composed of members from American Pharmaceutical Association, National Association of Boards of Pharmacy, American Association of Colleges of Pharmacy, and American Council on Education.

The School of Pharmacy holds membership in the American Association of Colleges of Pharmacy, whose objective is to promote the interests of pharmaceutical education. All of the AACP member institutions must maintain certain requirements for entrance and graduation.

Legal Requirements and Reciprocity

To qualify for examination for licensure by the West Virginia Board of Pharmacy, the applicant must be not less than 18 years of age and of good moral character. Further, the applicant must be a graduate of an accredited school of pharmacy, and must meet the internship requirements set by the West Virginia Board of Pharmacy.

Interns must be registered with the West Virginia Board of Pharmacy and must be enrolled in or a graduate of an accredited school of pharmacy to gain experience acceptable for the internship requirement. Details may be obtained from the Office of the Dean.

School of Pharmacy graduates are eligible for examination to practice pharmacy in any state. Graduates who successfully pass the West Virginia Board of Pharmacy examination are privileged to reciprocate, without further

examination, with forty-seven other states, and with the District of Columbia and Puerto Rico, provided they meet the requirements of these states.

Admission

All students seeking enrollment in the School of Pharmacy must comply with regulations appearing in this and the *WVU Undergraduate Catalog*.

Students preparing for the study of pharmacy may satisfy the course work requirements for entrance into the School of Pharmacy by majoring in any arts and sciences subject and including in their course selections the following, or their equivalents:

	Sem. Hr.	
<i>Pre-Pharmacy Requirements</i>	<i>Credit</i>	<i>WVU Courses Meeting Requirements</i>
English Composition	6	Engl. 1 & 2
College Algebra*	3	Math. 3
Trigonometry*	3	Math. 4
Principles of Economics	6	Econ. 54 & 55
General Biology	8	Biol. 1/3 & 2/4
General Chemistry	8	Chem. 15 & 16
Organic Chemistry	8	Chem. 133/135 & 134/136
Physics	8	Phys. 1 & 2
Electives**	18	
Total	68	

*Pre-calculus (4 hr.), or Calculus (4 hr.) may be substituted for College Algebra plus Trigonometry.

**Electives must be designed to satisfy the University Liberal Studies Program requirements. (See "Regulations Affecting Degrees" for a listing of specific courses.) Cluster A—12 hr.; Cluster B—6 hr. in addition to Economics 54 and 55.

Because limited openings are available, preference in admissions is given to qualified West Virginians, although outstanding nonresident applicants are considered. Careful consideration is given to those personal qualifications which bear upon the fitness of applicants for the study and practice of the profession of pharmacy.

Admissions are competitive and are based on cumulative and science academic grade-point averages achieved in all prior college courses, recommendations describing academic performance, results of the Pharmacy College Admissions Test (PCAT), and a personal interview which may be required. A required course in which a grade of D was received must be repeated with a grade of C or better before acceptance can be granted by the School of Pharmacy Committee on Admissions.

Applicants should write to the Office of Admissions and Records, WVU Medical Center, Morgantown, WV 26506, for official application forms, which will be made available after January 1 of each year and which should be returned to that office by April 1 preceding the fall term (first semester) in which the student seeks enrollment. Formal applications received after the April 1 deadline will be considered only when vacancies exist.

A \$10.00 application fee is required and must accompany the application.

Each applicant who is recommended for acceptance is expected to deposit \$50.00 before his/her name is entered upon the official list of those accepted by the School of Pharmacy. If the applicant enrolls, this sum is applied to the first-semester tuition. If the applicant fails to enroll, this deposit is forfeited.

Before enrollment in the School of Pharmacy, all students must complete all immunizations and diagnostic procedures required by the West Virginia

Board of Regents, West Virginia University, the West Virginia University Medical Center, and/or the School of Pharmacy.

Complete information may be obtained from the Dean of the School of Pharmacy, Morgantown, WV 26506 or from the Office of Admissions and Records, WVU Medical Center, Morgantown, WV 26506.

Pharmacy College Admission Test

Completion of the Pharmacy College Admission Test is a requirement for admission. It is strongly recommended that the student take this test in the fall before making application for admission. Information concerning time and place of the test can be obtained from a pre-pharmacy adviser, the School of Pharmacy, or by writing: Pharmacy College Admission Test, The Psychological Corporation, 555 Academic Court, San Antonio, TX 78204.

Personal Interview

The Committee on Admissions may require a personal interview with an applicant, as it deems appropriate. Interviews are held during February, March, and April at the WVU Medical Center and are arranged, insofar as possible, to suit the convenience of the applicant. The general policy is that only applicants with a cumulative and science grade-point average of 2.5 or above are called for an interview. Applicants with a cumulative or science grade-point average below 2.5 are generally not considered for admission.

Recommendations on Academic Performance

Three faculty recommendations are required, although more may be submitted. At least two of these recommendations must be provided by course instructors in any two of the three pre-pharmacy science areas: biology, chemistry, and physics. The third recommendation may be provided by a course instructor of the student's choice.

Admission to Advanced Standing

If space is available, students from other accredited schools of pharmacy may be admitted, provided they meet the course requirements of the WVU School of Pharmacy, have a 2.5 grade-point average, and are eligible for readmission for the degree in pharmacy in the school previously attended. D grades in professional courses can not be transferred.

Student Status and Advancement

A student's status is determined by the Committee on Academic Standards of the School of Pharmacy. All committee actions are subject to approval of the Dean. In the School of Pharmacy, all grades except W, WU, P, and X are used to determine the cumulative grade-point average. The advancement of students in the School of Pharmacy is based on satisfactory academic performance, as well as the completion of course requirements.

To be in good standing, a student must maintain at least a 2.0 cumulative average in professional subjects. An F grade or failure to attain a 2.0 average in any semester will result in placing a student on probation. To be removed from probation, a student shall: (a) remove all academic deficiencies; (b) attain not less than a 2.0 cumulative grade-point average; and (c) demonstrate significant improvement in academic performance, earning a C grade or better in all course work prescribed by the Committee on Academic Standards.

Failure to be removed from probation in the subsequent semester may be deemed sufficient reason for suspension or the withdrawing of advancement. Furthermore, any student on probation at the end of the second professional year must petition the Committee on Academic Standards for advancement to the third professional year. Any student on probation at the beginning of the second semester of the second professional year or any student who qualifies for probation at the end of that semester shall not be eligible for summer clerkships.

Any first-professional-year student deficient 7 or more grade points shall fail promotion and shall repeat the year. Any second-professional-year student deficient 4 or more grade points shall fail promotion and shall repeat the year. Any student deficient 12 or more grade points, or who fails promotion a second time, shall be suspended.

Students on probation are not eligible to hold office in student organizations or to participate in activities which make demands on time necessary to maintain satisfactory academic performance. Students are expected to be present for all of their classes and laboratories. Full-time students in the School of Pharmacy may not register for less than 12 hours nor more than 20 hours during any semester without the approval of the Committee on Academic Standards.

Special Requirements

Students in the first professional year are required to obtain an Intern Certificate from the West Virginia Board of Pharmacy. Any hours worked before becoming a Registered Intern will not count toward the 1500 clock hours required by the Board of Pharmacy for licensure in West Virginia. The Intern Certificate must be maintained until completion of the internship.

During the first professional year, students will be informed of their assigned semester for the third professional year's required externship/clerkship program. Location and time of the rotations will be assigned during the first semester of the second year. Opportunity will be provided to state individual preference before assignments are made; however, the School of Pharmacy reserves ultimate responsibility in making such assignments. Each student will be expected to bear any financial burdens (i.e., living, moving, travel, etc.) incurred in satisfying externship/clerkship assignments. The class will be divided equally in thirds for the summer, fall, and spring terms.

Requirements for Degree

The degree of Bachelor of Science in Pharmacy (B.S.Pharm.) is conferred upon any student who complies with the general regulations of WVU concerning degrees, satisfies all entrance and School of Pharmacy requirements, and completes the curriculum of the School of Pharmacy.

To be eligible for graduation, a student must have an average of C (2.0) for all work in the professional curriculum.

Course Changes

A student who wants to obtain credit for a course in place of any course prescribed in the student's curriculum must obtain permission for such change from the Committee on Academic Standards.

Curriculum

SCHOOL OF PHARMACY CURRICULUM PLAN

First Professional Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Bioch. 139—Gen. Biochem.	4	M. Bio. 220—Microbiology	4
Anat. 101—Hum. Anat.	3	Phar. 202—Concepts. Pceut. 2	4
Physi. 241—Mech. Body Funct.	4	Phar. 207—Intro. to Drug Lit.	1
Phar. 200—Prep. Phar. Pract.	3	Phar. 228—Phar. Pract. Leg. Env.	4
Phar. 201—Concepts Pceut. 1	3	Phar. 241—Fund. Pathophys.	3
Phar. 227—Phar. Soc. Env.	2	Phar. 270—Fund. Med. Chem. 1	3
	19		19

Second Professional Year

<i>First Semester</i>	<i>Hr.</i>	<i>Second Semester</i>	<i>Hr.</i>
Pcol. 243—Pharmacology	4	Phar. 205—Phar. Pract.	4
Phar. 203—Concepts Pceut. 3	4	Phar. 230—Prof. Asp. Phar.	3
Phar. 229—Man. Asp. Phar. Pract.	3	Phar. 243—Chem. Immu. Agts.	3
Phar. 245—Pharmacotherapeutics 1 ...	3	Phar. 246—Pharmacotherapeutics 2 ...	3
Phar. 271—Fund. Med. Chem. 2	2	Phar. 260—Princ. Med.	2
Electives	0-3	Electives	0-4
	16-19		15-19

Third Professional Year

<i>First Session (Summer)</i>	<i>Hr.</i>	<i>Second Session (First Sem.)</i>	<i>Hr.</i>
Phar. 250—Amb. Care Clerkship	4	Phar. 250, 251, 252, and 253	
Phar. 251—Med. Team Clerkship	4	(See First Session)	16
Phar. 252—Inst. Care Clerkship	4	or	
Phar. 253—Elect. Clerkship	4	Electives	
	16	or	
		Free Session	

or
Free Session

Third Session (Second Sem.) Hr.
Phar. 250, 251, 252, and 253 16
or
Electives
or
Free Session

Prior to graduation and following completion of the first professional year, each student enrolled in the School of Pharmacy must complete a minimum of 19 credit hours of electives as part of the pharmacy curriculum.

Of the 19 credit hours, a minimum of 10 credit hours must be electives offered in the School of Pharmacy. The remaining credit hours may be approved electives offered in other colleges and departments at WVU. Elective course lists are posted in the School of Pharmacy and are available from the student's adviser. Under special circumstances (e.g., new courses, preparation for special post-baccalaureate programs, etc.) and only with the adviser's permission, the student may take a course which does not appear on either list of approved electives. Beyond the required 19 credit hours, the student may take any other electives. No course taken prior to admission into

the School of Pharmacy may be used nor repeated to meet the elective requirements of the professional curriculum.

A student admitted into the School of Pharmacy with a previously earned baccalaureate degree may petition the Committee on Academic Standards to be relieved of a maximum of 9 credit hours of approved elective courses outside the School of Pharmacy. This petition is normally granted if the student is in good academic standing. The student petitions for this exemption during the preregistration period in the Spring Semester of the first year in pharmacy school with the exemption contingent upon the successful completion of both semesters of the first-year pharmacy curriculum. Once the exemption is granted after the first two semesters in good academic standing, it shall not be revoked except for just cause as deemed necessary by the Dean and/or faculty.

The University pass/fail policy will be followed. Only Pharmacy 289 (first offering up to 3 hours), approved electives in other colleges and departments at WVU, or additional free electives may be taken on a pass/fail basis. A student with at least a 2.0 grade-point average may elect to take up to a maximum of 4 credit hours each semester on a pass/fail grading basis.

Graduate Programs

Pharmaceutical Sciences

The School of Pharmacy offers graduate programs in the pharmaceutical sciences aimed at educating competent researchers and teachers. Programs for the degree of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) provide flexible, research-oriented curricula designed to develop the interests, capabilities, and potential of the individual student.

Admission

Applicants for admission must satisfy the general requirements for admission as graduate students. The applicant must possess a baccalaureate degree with a background in a suitable area of study, an overall grade-point average of at least 2.75, and the aptitude and interest for graduate work in the pharmaceutical sciences in order to be admitted with regular student status. Applicants not meeting criteria for admission with regular student status will be considered for admission under alternate admission classifications as explained in Part 2 of the *WVU Graduate Catalog*. In addition, graduate record examination scores in the verbal, quantitative, and analytical portions of the examinations are required from all students, and TOEFL, or similar scores, are required of foreign students. While the Graduate Record Examination (GRE) scores are preferred for applicants in the area of Behavioral and Administrative Pharmacy, test scores on the Graduate Management Admissions Test (GMAT) are acceptable.

Academic Standards

No credits are acceptable toward a graduate degree with a grade lower than a C.

The graduate student must have a cumulative grade-point average of at least 3.0 in all graduate courses to qualify for the degrees.

Master of Science (M.S.)

The School of Pharmacy offers programs of graduate study leading to the degree of Master of Science (M.S.) in the pharmaceutical sciences. Students may specialize in pharmacy administration, pharmacology and toxicology, pharmacognosy, pharmaceutical chemistry, industrial pharmacy, medicinal chemistry, pharmaceuticals, biopharmaceuticals, and pharmacokinetics.

Requirements for M.S. Degree

To be eligible for the M.S. degree, the student must complete a minimum of 30 hours of graduate credit, of which no more than 6 hours may be for research and thesis.

Upon completion of the course work and research requirements and after submission of the thesis, an oral examination will be administered by the appointed examination committee.

Doctor of Philosophy (Ph.D.)

The School of Pharmacy offers programs of study leading to the Doctor of Philosophy (Ph.D.) degree in the pharmaceutical sciences. Specialty areas of study include medicinal chemistry, pharmaceuticals, biopharmaceuticals/pharmacokinetics, and behavioral and administrative pharmacy.

Requirements for Ph.D. Degree

The student's first semester is usually occupied with course work while he or she is under the guidance of an assigned interim committee. During this time, each student will confer with several faculty members concerning the research project, and a major professor should be chosen by the end of the first semester of graduate study. The student's research committee should be chosen by the end of the first year of study (18-20 hours of graduate course work). The interest to pursue the M.S. en route to the Ph.D. degree should also be stated at this time. It is not necessary for all students to complete all requirements for the M.S. degree in order to qualify for admission into the Ph.D. program, although the student, with committee advice, may elect to complete the requirements for this degree in progress toward the Ph.D. Students bypassing the M.S. must meet all requirements for the M.S., except for preparing and defending a thesis.

A formal plan of study and research plan must be submitted by the student, the major professor, and the research committee.

Progress will continue with guidance from the research committee, and by the end of the second year the student should have completed the language/research tool requirements.

To be admitted to candidacy for the Ph.D. degree, the student must satisfy the above requirements and pass oral and written qualifying examinations.

After admission to candidacy, a substantial part of the program is devoted to an original research project which culminates in a dissertation. To be recommended for the Ph.D., the dissertation must be satisfactorily completed and defended at an oral examination.

Courses of Instruction in Pharmacy

Professors Brister, Jacknowitz, Lim, Ma, C. Malanga, J. Mauger, O'Connell, Riley, and Rosenbluth; Professor Emeritus Wojcik; Associate Professors Abate, Brushwood, M. Davis, Glover, R. Griffith, Gwilt, Lively, Ponte, and Waters; Assistant Professors D'Angio, Daily, Elliott, K. Fifer, Pau, Stout, and Wedin; Clinical Associate Professor

Lowe; Clinical Assistant Professors Bartsch, Clark, D. Gill, Hilligoss, Kelly, Lorenzo, Midcap, Ott, Parker, Prettyman, and Stevenson; Clinical Instructors Alderman, Anderson, Anile, Bailey, Bovenizer, Caplan, Carney, Carter, Cole, Coleman, Corkrean, Crawford, Criss, R. Davis, T. Davis, Deem, J. Fifer, Frederick, Fruth, Gastineau, G. Gill, J. Griffith, Griffiths, Gryskovich, Hammond, Henry, Hickman, Hockenberry, Holmes, Hunter, Jackson, Jarvis, Johnston, Law, Logan, Lusk, M. Malanga, Martin, K. Mauger, McKeever, Menighan, Meredith, Miller, Muha, Orlando, Ottmar, Pawlak, Phillips, Plummer, Plyburn, Reed, Reynolds, Rider, Ridgway, Ringer, Ritchie, Robinette, Rokisky, Scrivo, Sebroski, Shallis, Shaw, Slaven, Slevin, Stanley, R. Stout, Taylor, B. Thomas, J. Thomas, Tonkovich, Toompas, Van Meter, Viola, Weaver, Weekley, Wood, Yost, and Ziolkowski; Adjunct Professors Howard, Nematollahi, O'Donnell, and Shah; Adjunct Assistant Professors Khoury, Kirsch, Poremba, Richardson, and Swisher; Adjunct Instructors Dalton, Goto, Kibler, Krahulec, Schamroth, and Stone.

Pharmacy (Phar.)

200. *Preparation for Pharmacy Practice*. I. 3 hr. PR: First-year standing in pharmacy or consent. Pharmaceutical calculations, dosage forms, dispensing techniques, and an overview of pharmacy practice and career opportunities.
201. *Concepts in Pharmaceutics 1*. I. 3 hr. PR: First-year standing in pharmacy or consent. Concepts of a pharmaceutical system with emphasis on the physiochemical principles in formulations and dosage forms, primarily solutions and their calculations.
202. *Concepts in Pharmaceutics 2*. II. 4 hr. PR: Phar. 201 or consent. Special dosage forms, quality control, drug analysis, design and manufacture of pharmaceutical formulations and their conformity with Food and Drug Administration (FDA) regulations, especially good manufacturing practices.
203. *Concepts in Pharmaceutics 3*. I. 4 hr. PR: Phar. 202 or consent. Fundamentals of biopharmaceutics are presented. The kinetic, therapeutic, and dosage formulation-related aspects of drug absorption and disposition are discussed. Laboratories emphasize theoretical and practical problems in pharmacokinetics and bioavailability.
205. *Pharmacy Practice*. II. 4 hr. PR: Second-year standing in pharmacy or consent. Development of professional competence in the practice of pharmacy. Scientific principles underlying extemporaneous prescription compounding are applied to prescription problems. Problems arising in the dispensing of precompounded pharmaceuticals are studied.
207. *Introduction to Drug Literature*. II. 1 hr. PR: First-year pharmacy student or consent. To acquaint the student with the reference sources available to meet the drug information needs of pharmacists in the many different aspects of pharmacy practice, as well as those needed by other health practitioners.
211. *Sterile Products*. I, II. 3 hr. PR: Third-year standing in pharmacy. Broad view of the technology involved in sterilization and in the preparation and administration of sterile dosage forms. 2 hr. lec., 3 hr. lab.
212. *Non-Prescription Drugs*. I. 3 hr. PR: Second-year standing in pharmacy. Basis for self-medication, the therapeutic rationale for non-prescription drugs, and ethical principles as they apply to non-prescription drugs and appliances.
213. *Industrial Pharmacy*. I. 4 hr. PR: Phar. 202. Major aspects and principles of dosage form development and manufacture. Structure of industry and government influences. Laboratory experiences in manufacturing and development techniques.
214. *Cosmetic Formulation*. II. 3 hr. PR: Phar. 203. Introduction to principles and basic considerations of cosmetic formulations, including review of anatomy/physiology of skin. Laboratory exposes students to practical aspects of processing the most popular cosmetic products.

215. *Physical Pharmacy*. II. 3 hr. PR: First-year standing in pharmacy or consent. Designed to illustrate the special application of physiochemical properties of materials to pharmaceutical and physiological systems. Especially useful in delineating formulation considerations impinging upon the stability of complex systems.
216. *Hospital Pharmacy and Administration*. I. 3 hr. PR: Enrollment in the School of Pharmacy and consent. Basic concepts of the organization, management, and services of hospitals and pharmacist's role in the modern hospital. Emphasis on principles of hospital pharmacy administration and practice.
227. *The Pharmacist's Social Environment*. I. 2 hr. External factors which influence the practice of the pharmacist over which the pharmacist has little or no control, with emphasis on the psychosocial aspects and distributive systems.
228. *Pharmacy Practice and Legal Environment*. II. 4 hr. PR: Phar. 227 or consent. Continuation of Phar. 227 with emphasis on legal and health care delivery systems.
229. *Managerial Aspects of Pharmacy Practice*. I. 3 hr. PR: Phar. 227 and 228 or consent. Emphasis on decision making, planning, organization, personnel, information systems, risk factors, and financial aspects.
230. *Professional Aspects of Pharmacy Practice*. II. 3 hr. Emphasis on inventory control, pricing, communications, patient profiles and charges, and present and future role of pharmacist.
231. *The Pharmacist Proprietor*. I. 3 hr. PR: Senior standing in pharmacy. Pharmacist as a business owner; management theories and principles applied to the efficient operation of pharmacy.
232. *Social Aspects of Pharmacy*. II. 3 hr. Psychosocial aspects of pharmacists and patients in health care setting. Behavioral science factors which affect whether, why, or how medications and pharmaceutical services are used; role of pharmacist in health care.
233. *Current Developments in Pharmacy Practice*. II. 3 hr. PR: Third-professional-year standing, or second-professional-year by consent. Examines issues of current importance to contemporary pharmacy practice such as prepaid health insurance, peer standards review and organizations, degree and title granting, competency based relicensure and continuing education, and technicians' roles.
241. *Fundamentals of Pathophysiology*. II. 3 hr. PR: First-year standing in pharmacy or consent. Student is introduced to various disease states with emphasis on the pathophysiology underlying those diseases amenable to drug therapy.
243. *Chemotherapeutic and Immunobiologic Agents*. II. 3 hr. PR: Consent or second-year standing in pharmacy. Bacterial, viral, and parasitic infections; immunobiological methods of prevention, modification, and treatment; chemotherapeutic agents used in treatment; therapeutics and management.
245. *Pharmacotherapeutics 1*. I. 3 hr. PR: Second-year standing in pharmacy or consent. The application of pharmacodynamic, pharmacokinetic, and pharmaceutical principles in the treatment, diagnosis, and prevention of disease states.
246. *Pharmacotherapeutics 2*. II. 3 hr. PR: Phar. 245 or consent. A continuation of Phar. 245 in the application of pharmacodynamic, pharmacokinetic, and pharmaceutical principles in the treatment, diagnosis, and prevention of disease states.
249. *Drugs and Medicines*. I. 3 hr. (Not intended for pharmacy majors.) PR: General biology or consent. A course intended to introduce the nonhealth professional student to information about drugs and pharmaceutical preparations to include their source, administration, action, use and abuse.
250. *Ambulatory Care Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. A course giving extensive experience in the practice of pharmacy, emphasizing the pharmacist's relationship to ambulatory patients.

251. *Medical Team Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Students will participate on a health care team in an inpatient setting. Emphasis will be on pharmaceutical and drug advising, role of drug therapies in patient care, patient drug histories, and practitioner-patient communications.
252. *Institutional Care Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Extensive experience will be gained in the practice of pharmacy in institutional centers with emphasis on the pharmacist's relationship with institutional patients.
253. *Elective Clerkship*. I, II, S. 4 hr. PR: Third-professional-year standing. Students will elect to repeat a clerkship (Phar. 250, 251, 252). Emphasis will be on the further development of skills in the practice of pharmacy.
256. *Advanced Pharmacotherapeutics*. I. 3 hr. PR: Phar. 246 or equiv., and consent. The integration of pharmacological-therapeutic concepts in the study of treatment modalities and problems which may be encountered by the pharmacist in drug management of selected disease states.
260. *Principles of Medicine*. II. 2 hr. Those diseases about which the pharmacist should have sufficient knowledge for intelligent communication with the physician.
270. *Fundamentals of Medicinal Chemistry 1*. II. 3 hr. PR: First-year standing in pharmacy or consent. A relationship of the chemistry, structure, and physiochemical properties of drugs to their pharmacodynamic effects. Major portion devoted to basic principles followed by discussion in pharmacological classes.
271. *Fundamentals of Medicinal Chemistry 2*. I. 2 hr. PR: Phar. 270. Continuation of Phar. 270.
272. *Pharmacochemical Concepts of Drug Design*. II. 3 hr. PR: Phar. 271 or consent. Selected concepts of chemical approaches to the study of pharmacological and toxicological actions of drugs and their application to drug design.
276. *Pharmaceutical Quality Control*. II. 3 hr. PR: Second-year standing in pharmacy. Basic scientific principles in quality control of drugs and dosage forms, with particular attention to newer analytical techniques.
283. *History of Pharmacy*. I or II. 2 hr. Gives the student a deeper appreciation of the background of pharmacy and its development from ancient times to present.
284. *Public Health*. I or II. 2 hr. Measures required for the application of the pharmacist's knowledge, skill, and facilities to the promotion of the health and welfare of the public in cooperation with public and private health agencies.
285. *Nuclear Pharmacy*. I. 3 hr. PR: Second-year standing in pharmacy or consent. Production and properties of radiation; detection of radiation; nuclear medicine instrumentation; the formulation, production, quality control, and use of radioactive materials and radiopharmaceuticals used in diagnosis and treatment.
287. *Seminar in Pharmaceutical Sciences*. I, II. 1-3 hr. PR: Consent. Presentation and discussion of special topics in pharmaceutical sciences.
289. *Pharmaceutical Investigations*. I, II, S 1-3 hr. PR: Consent. Original investigation in pharmaceutics, medicinal chemistry, pharmacognosy, or pharmacy.
290. *Special Topics*. I, II. 1-4 hr.
298. *Clinical Pharmacy Specialties*. I, II, S. 3 hr. PR: Phar. 250, 251, 252, 253, and consent. Clinical pharmacy elective rotation on a selected medical specialty service. Rotations will be arranged upon approval by clinical pharmacy instructor and respective medical chiefs.
300. *Industrial Pharmacy*. I. 4 hr. Major aspects and principles of dosage form development and manufacture. Structure of industry and government influences. Laboratory experiences in manufacturing and development techniques.
301. *Advanced Biopharmaceutics*. I or II. 3 hr. Concepts of biopharmaceutics and pharmacokinetics in relation to the design and evaluation of dosage forms and determination of rational dosage regimens in health and disease.

314. *Cosmetic Formulation*. II. 3 hr. PR: Phar. 203. Introduction to principles and basic considerations of cosmetic formulations, including review of anatomy/physiology of skin. Laboratory exposes students to practical aspects of processing the most popular cosmetic products.
315. *Physical Pharmacy*. I or II. 3 hr. Designed to illustrate the special application of physiochemical properties of materials to pharmaceutical and physiological systems. Especially useful in delineating formulation considerations impinging upon the stability of complex systems.
370. *The Synthesis of Drugs*. I, II, S. 3 hr. PR: Chem. 332 and consent. A survey of the approaches employed in the synthesis of a variety of examples of pharmacologically useful agents. Emphasis is placed on retrosynthetic analysis of target molecules and the application of synthetic procedures to multi-step syntheses.
390. *Special Topics*. I, II, S. 1-4 hr.
391. *Seminar in Pharmaceutical Sciences*. I, II. 1 hr. PR: Consent. A multidisciplinary weekly presentation and discussion of special topics and research in the pharmaceutical sciences. (Weekly attendance is required and grading is on an S/U basis only.)
396. *Special Problems in Pharmaceutical Sciences*. I, II, S. 1-3 hr. Where special interest is shown by the student in an area other than of the student's thesis research, a faculty member will supervise individual study and research.
484. *Special Seminar*. I, II, S. 1-6 hr. For use by disciplines in the pharmaceutical sciences wishing to have graduate students and faculty participate in seminars and group discussions on specialized or technical topics at the advanced level.
490. *Teaching Practicum*. I, II. 1-3 hr. PR: Graduate standing and consent. Supervised practices in college teaching of pharmacy.
491. *Advanced Study*. I, II, S. 1-6 hr. PR: Consent. Investigation in advanced subjects which are not covered in regularly scheduled courses. Study may be independent or through specially scheduled lectures.
496. *Graduate Seminar*. I, II. 1 hr. PR: Consent. Formal presentation by graduate students to assembled graduate faculty and students of research or special topics approved by adviser. Title to be presented at start of semester. Required at least once annually. (Grading is S/U.)
497. *Research*. I, II. 1-15 hr.
498. *Thesis*. I, II, S. 2-4 hr. PR: Consent.

Pharmaceutical Chemistry (Ph. Ch.)

375. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Spectroscopic methods of analysis with emphasis on their applications in pharmaceutical problems and in biological sciences.
376. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Continuation of Ph. Ch. 375, with emphasis on electro-analytical methods and preparation of samples from pharmaceutical dosage forms and from biological materials.
377. *Advanced Pharmaceutical Analysis*. I or II. 3 hr. Physical-chemical principles involved in methods development. A special problem is assigned as an integral part of the course.

Pharmaceutics (Pceut.)

302. *Advanced Pharmaceutics*. I or II. 3 hr. Physiochemical and biopharmaceutical principles involved in disperse systems (liquid, semi-solid, and solid) which function as dosage forms. Considerations of properties of solid dispersions, micromeritics, diffusion of liquid dispersions, interfacial phenomena, emulsification, suspensions, prolonged action medication, etc.

Pharmacognosy (Pcog.)

340. *Organic Plant Constituents*. I or II. 3 hr. Occurrence, properties, biogenesis, etc., of a number of classes of organic compounds derived from plants. Emphasis on secondary metabolites which contain products of pharmaceutical or medicinal interest.
341. *Isolation of Plant Constituents*. I or II. 3-5 hr. Acquaints the student with techniques used in extraction, separation, and isolation of plant constituents.

Pharmacy Administration (Phar. Ad.)

320. *Drug Regulation and Control*. I or II. 3 hr. Legislation affecting the development, introduction, control, and utilization of drugs in the American economy.
321. *Drug Distribution Systems*. I or II. 3 hr. Detailed study and analysis of drug distribution in institutional environments.
323. *Economics of the Pharmaceutical Industry*. I or II. 3 hr. History, background, and formation of major drug industries. Oligopolistic practices, mergers, combines, costs of research, and production.

West Virginia University Hospitals

West Virginia University Hospitals has entered a new era with the opening of a new 376-bed replacement facility—Ruby Memorial. For more than 25 years, the hospital has provided the training ground for health care professionals and offered the best in patient care. The new building will further enhance its efforts toward those goals.

The new building houses Children's Hospital and the Jon Michael Moore Trauma Center. It features improved patient care facilities and amenities. The building was named in honor of Hazel Ruby McQuain and the late J. W. Ruby. Mrs. McQuain contributed \$8 million, the largest philanthropic gift in West Virginia history, for the new hospital. In addition to the main building, a new psychiatric hospital has been constructed and an ambulatory care building is being planned.

The hospital does not receive tax revenues. It is operated by a not-for-profit corporation formed in 1984 when the West Virginia Legislature divested the hospital from the state. That divestiture permitted the hospital corporation to move forward independently to construct the new building.

Patients come to the hospital and its clinics from all parts of West Virginia, with 40 of the state's 55 counties represented on a typical day. They find expertise, experience, and equipment not available in other areas of the state.

Radiologic Technology

A two-year program for radiologic technologists is offered by the Department of Radiology at West Virginia University Hospitals. This course covers anatomy and physiology, radiologic physics, quality assurance, radiographic procedures, pathology, medical terminology, computer literacy, nursing procedures, and professional ethics. Subjects taken do not carry WVU credit, but provision to transfer course work under the Board of Regents Bachelor of Arts program may be pursued. Clinical education is acquired on assigned tours of duty under the tutelage of staff members and clinical instructors.

Candidates must be graduates of accredited high schools with scholastic and personal records acceptable to the Admission Committee. All students are required to take either the American College Testing Program (ACT) tests or the Scholastic Aptitude Test (SAT) and have the report of scores sent to WVU prior to the admission decision. Students admitted on the basis of SAT scores must submit results of the ACT by the end of the first semester of their freshman year.

Students provide their own lodging and meals. Those completing the program are awarded a certificate and are eligible to take the American Registry Examination.

Communications should be addressed to: Coordinator, Radiologic Technology Training, Department of Radiology, West Virginia University Hospitals, Morgantown, WV 26506.

Dietetic Internship Program

The Dietetic Internship Program is offered by the Department of Nutrition and Dietetics of West Virginia University Hospitals. The internship is a 44-week generalist program providing learning experience in administrative

and clinical dietetics, and is accredited by the American Dietetics Association. Upon successful completion of the program, the intern is recommended for membership in the American Dietetic Association and is eligible to complete the national registration examination.

Admission requirements are: completed bachelor's or advanced degree from an accredited college or university with courses meeting ADA Plan IV program requirements in general dietetics and at least a 2.75 overall grade-point average with a 2.25 in science courses and 3.0 in food and nutrition courses. Applications should reach the Internship Director by February 20. Appointments will be made in April for entrance in September.

Appointments to the program will be based on personal goals and expectations as identified in the letter of application, evidence of scholastic performance, work experience, extracurricular activities, scholastic honors received, letters of reference, and telephone interview with the screening committee.

Communications should be addressed to:

Director of Dietetic Internship
West Virginia University Hospitals
Department of Nutrition and Dietetics
Morgantown, WV 26506

Faculty and Staff

President's Cabinet

Neil S. Bucklew, Ph.D., *President*

Raymond A. Bauer, *Student Body President*

Marion F. Dearnley, J.D., *Interim Associate Vice President for Student Affairs*

Ronald W. Eck, Ph.D., *Faculty Representative*

Edwin Flowers, J.D., *Vice President for Institutional Advancement*

Frank A. Franz, Ph.D., *Provost and Vice President for Academic Affairs and Research*

James K. Hackett, M.B.A., *Associate Vice President for Finance and Administration, Health Sciences*

Mary Jane Hitt, M.A., *Special Assistant to the President*

John E. Jones, M.D., *Vice President for Health Sciences*

Paul Martinelli, *Staff Council President*

Herman Mertins, Jr., Ph.D., *Vice President for Administration and Finance*

Jon A. Reed, J.D., *Executive Officer*

John Signorelli, M.B.A., *Associate Vice President for Finance*

Rachel B. Tompkins, Ed.D., *Associate Vice President for University Extension and Public Service*

William E. Vehse, Ph.D., *Associate Vice President for Academic Affairs and Research*

Medical Center

John E. Jones, M.D., *Vice President for Health Sciences.*

James K. Hackett, M.B.A., *Associate Vice President for Health Sciences.*

William O. McMillan, Jr., M.D., *Associate Vice President, Charleston Division.*

W. Robert Biddington, D.D.S., *Dean, Dentistry.*

Richard A. DeVaul, M.D., *Dean, Medicine.*

Lorita D. Jenab, Ed.D., *Dean, Nursing.*

Sidney A. Rosenbluth, Ph.D., *Dean, Pharmacy.*

Bernard G. Westfall, M.B.A., *President, WVU Hospitals, Inc.*

School of Dentistry

John D. Adams, D.D.S. (U. Pitt), *Professor Emeritus of Fixed Prosthodontics.*

Camillo A. Alberico, D.D.S. (Marquette U.), *Professor Emeritus of Endodontics.*

Lester H. Bakos, D.D.S. (WVU), *Associate Professor of Hospital Dentistry.*

Arthur J. Beaumont, Jr., D.D.S. (WVU), *Associate Professor of Prosthodontics.*

William P. Bennett, D.D.S. (WVU), *Clinical Assistant Professor (part-time) of Operative Dentistry.*

Henry J. Bianco, Jr., D.D.S. (U. Md.), *Associate Dean; Professor and Chairperson of Prosthodontics.*

W. Robert Biddington, D.D.S. (U. Md.), *Dean; Professor of Endodontics.*

Byron H. Black, D.D.S. (WVU), *Clinical Assistant Professor of Hospital Dentistry, Charleston Division.*

Jerry Bondurant, D.D.S. (WVU), *Clinical Instructor in Community Dentistry.*

Jerry E. Bouquot, D.D.S. (U. Minn.), *Professor and Chairperson of Oral Pathology.*

Dale C. Bowers, D.D.S. (Ohio St. U.), *Professor of Oral Diagnosis and Radiology.*

Kirkland Brace, D.D.S. (Georgetown U.), *Clinical Instructor in Hospital Dentistry.*

Regina R. Brannon, D.D.S. (WVU), *Clinical Instructor in Pediatric Dentistry.*

Robert Bridgeman, D.D.S., *Clinical Associate Professor (part-time) of Operative Dentistry.*

Stephen Broughton, D.D.S. (WVU), *Clinical Assistant Professor of Community Dentistry.*

Thomas C. Cady, LL.M. (U. Tex.), *Lecturer (part-time) in Dental Jurisprudence.*

Anthony L. Camele, D.D.S. (WVU), *Clinical Assistant Professor (part-time) of Prosthodontics.*

John L. Campbell, D.D.S. (Ind. U.), *Professor Emeritus of Oral and Maxillofacial Surgery.*

John A. Capriolo, D.D.S. (U. Md.), *Clinical Instructor of Hospital Dentistry.*

John Carson, D.D.S. (WVU), Clinical Assistant Professor of Oral and Maxillofacial Surgery.

Minter L. Chapman, D.D.S. (WVU), Clinical Associate Professor (part-time) of Operative Dentistry.

James M. Christian, D.D.S. (Temple U.), Assistant Professor of Oral and Maxillofacial Surgery.

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